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Two Seaside Resorts.

SEPARATED by some eighty miles of sea, but nearly one hundred and thirty apart by railway, lie on our southern coast old Torquay and new-fledged Bournemouth.

When Bournemouth was as yet but a dream of the future, comprising two or three private houses, a small tavern (only within the last month or two demolished), and a few cottages, Torquay was a well-known and well-frequented health resort, a small but long-established port, and the chief centre of life in the ancient parish of Tor, whose simple and venerable church and tower look forth this day from the populous "God's Acre" around them, upon the two dozen or so of conformist and nonconformist fanes, which, in all the various forms,—good, bad, and indifferent,—of modern Pointed architecture, have sprung up to assert their predominance over the modest, solemn, old-world, grey stone church. What a tale is told of time and change, of life and death, of long quiet past, and busy, fussy present, by this contrast between the old parish church and its modern compeers, and how much of a people's history might be written with such a contrast for a text. Such, however, is not the theme proposed in "this present writing," the aim of which is rather a comparison between the two modern towns whose names are coupled above,—a comparison often essayed in one shape or another by visitors to both.

One of the most striking points of contrast between Torquay and Bournemouth is in the form of the ground on which they are built; Torquay, rising in almost amphitheatrical shape from the coast level, tier above tier, and terrace above terrace, to between 300 ft. and 400 ft. of elevation; Bournemouth, with a sand-cliff of some 100 ft. in height, ranging its houses parallel to its front, with the land sloping slightly inland to the heathery moorland which backs it to the north; save where the little stream which, draining some five square miles of country, and giving its name to the place, has formed a narrow valley, through which it travels, with no very brisk pace, to the sea. Here, as regards the picturesque,—one great element in sea-side attraction,—arises at once a marked point of difference, which must certainly be weighed greatly in favour of Torquay; for not only does the form it takes afford much the more striking picture of the two, but it gives scope for much more extended enjoyment of the sea view; the dwellings even far inland looking over their neighbours beneath them, and all in their degree looking out on the expanse of water, and catching the refreshing breath of the sea-breeze, as it flows inland. The geological character of the two sites is no less dissimilar than their visible form; the hard, marbly limestone of the Devonshire bay forming bold rugged points and picturesque detached sea-girt rocks; while the sand and shingle-drift of Hampshire, rapidly worn by water from both above and below, form clear, well-defined sweeps of steep, warm-tinted cliff, broken at intervals by wooded chines, and varied here and there near the sea level by the cool grey of underlying beds of "Dorset clay." Both these characters of coast are eminently picturesque, and if in boldness and force the Tor Bay sea face be given the palm, aided as its effect is by the full rich foliage of shrubs and underwood, nothing can well exceed in beauty of colour the rain-swept scarps and hollows of the Bournemouth cliffs, the whole extent of which from Hengistbury Head to Poole Harbour, forming the main sweep of Poole Bay, are at once in view from the beach or from the cliff walks; and in the flying lights of a sunny breezy day afford a varying dioramic picture of great loveliness and interest. Facing so fully south, Bournemouth at mid-day suffers the full glare of reflection from the sea; but this very circumstance of aspect, adverse at noon, renders the moonlight effects to be seen there among the most striking which the English coast affords.

It is not very easy to say whether the more compact dimensions of Tor Bay, not quite four miles and a half across from Hope's Nose to Berry Head, or the nine miles span of Poole Bay be preferable from a painter's point of view. The moderate elevation of Berry Head, however, gains importance from its nearness as seen from Torquay; but the height and fine forms of the Purbeck Downs, seen in a like but more distant relation to Bournemouth, have a dignity which the corresponding view of Tor Bay lacks.

The view of the Isle of Wight in the opposite direction gives also a great charm to the Bournemouth sea view, which, however, has little, if any, nautical interest, as, although looking out southward on the full track of shipping up and down Channel, vessels, for the most part, keep so far out as to add nothing of life to the view; the coasters and steamers from Southampton by the Solent scarcely breaking to the eye the monotonous line of horizon at ten or twelve miles' distance; and the great area of sea overlooked from the cliffs, a surface of fully 130 square miles, is often for days undotted by a speck.

Taking Torquay on somewhat similar points; from its upper parts on the east, the fine outline of Dartmoor, with its peaks and tors, forms a striking background to the west, while its possession of a harbour and a coasting trade ensures some movement on its tides. Yachts frequent it too in the summer, and with the fine fishing smacks of Brixham across the Bay sailing in fleets of scores at a time, give the scene that life and stir which we English islanders are accustomed to associate with our salt-water surroundings.

To step ashore again. The pine trees of Bournemouth, the result of liberal planting some seventy years ago, have become almost proverbial, and evergreens and rhododendrons luxuriate there to the full; while not the less the almost tropical vigour of vegetation at Torquay clothes it with a richness of greenery which leaves little advantage to the Hampshire firs.

Not to dwell tediously on the natural features of the Hants and Devon health resorts, it may be noted that Bournemouth has the advantage in range of sands, and Torquay in picturesque seaside paths, while the depth and clearness of the water in Torbay make the effects of sea-colour finer than at Bournemouth; and a run of sea, too, gets up in a gale, which the shoal and sheltered water of Poole Bay cannot emulate, the rise of the highest waves at Bournemouth reaching but 10 ft. or so from hollow to crest; and residents there familiar with the English lakes assert that Windermere in a strong gale can show a much heavier "sea" than ever rises in this quiet centre of Poole Bay. Before passing to some notice of the artificial characteristics of these towns, one word as to climate. The difference in this respect is remarkable, although both places are recommended for those suffering from pulmonary disorders, it may be presumed, by a non-medical critic, of different characters. Torquay is warm, moist, and relaxing; Bournemouth dry, sunny, and comparatively bracing. The Torquay climate, affording comfort to those who, confined during the winter months almost entirely within doors, cannot bear the stress of a low temperature, has not a beneficial effect on strangers who are under no such restraint, London physicians finding obstinat bronchial cases for summer treatment among those who, in health, have accompanied, for a winter's sojourn at Torquay, consumptive friends for whom its mild temperature was prescribed. Dryness is the essential characteristic of the Bournemouth climate. Though the range of the thermometer is moderate, the winters there can, it is said, be cold enough to brace the nerves of any southern county native, and the summers are not too hot for agreeable exercise. If sunshine is to be had on the south coast it generally finds its way thither. As to the artificial features of the two, it must

be borne in mind that Torquay *has* grown and Bournemouth *is* growing, and that, too, under conditions of travel and of society which did not fully prevail while the Devonshire town was making its chief advances. Foremost among artificial advantages must be named, unquestionably, the charming public pleasure-grounds of Bournemouth, unique probably among English watering-places. The valley of the Bourne, happily offering itself for this purpose, was early and wisely appropriated, and laid out, length by length, in successive years, until there is now something like a mile of nearly continuous walks, grass-plats, and ornamental shrubbery, reaching directly inward from the outlet of the Bourne at the pier. These, with the walks along the pine-sheltered roads, may be held to compensate, in great measure for the want of any variety of country walks near at hand, in which, as before said, Torquay excels, the cliff walks and drives at Bournemouth scarcely giving the variety which visitors desire.

The natural difference of site, first noticed, produces, of course, an artificial difference of a very material kind in the entirely dissimilar character of the suburban roads and of the measure of interest they afford. At and about Torquay the reach and variety of view from the roads on the higher ground contrast greatly and favourably with the generally confined style of the landscape which can be enjoyed on the roads about Bournemouth. A railway journey of a few miles will, it is true, give those who are active pedestrians good starting points for long walks on the Dorset Downs and Hampshire New (?) Forest, but the roads laid out for drives and home walks rather give the limits for comparison in a notice like the present, and the architectural character of the two towns may now come under review. The elements for architectural effect exist, of course, much more largely in Torquay, with its terraced formation, than on the plateau which forms the general site of Bournemouth; and an appearance of more unity of purpose in the general planning and laying-out of building sites also marks the Devonshire town, and helps its natural features. A much more divided ownership in the Bournemouth land would seem to be one cause of this difference, and, possibly, a local control less wisely or authoritatively exercised over the laying-out of different centres of building; at all events, the impression of each planner doing what is good in his own sight exists much more strongly at Bournemouth than at Torquay. It is curious to note, as can as yet still be noted at Bournemouth, the common course of growth in such places of resort; the laying-out, in the first instance, of the principal roads and drives near the sea front, under the direction of some practised authority in such matters; the building on the lines of these, of modest two-story villas, comfortable-looking and unambitious; the gradually-added growth of larger and more important houses on the best sites, marked generally by the attention to arrangement and quiet style which belong to the English gentleman's house; and coeval with these one or two moderate-sized and unpretentious hotels. The first portion of a church will accompany these, and some very moderate speculations in the way of shop-building. Not long, however, does this sober process prevail. Enter the "speculative builder," and behold a new scene! The careful adaptation of building to site disappears; modesty of style and care of arrangement vanish, and a prevailing air of fuss and worry, of obtrusiveness and vulgar "look-at-me-ism" take their place; and flaring notice-boards announce that Messrs. So-and-so, "architects and builders," have these very eligible villa residences at their disposal. Torquay does not at the present time exhibit these symptoms of building fever in at all the same measure as its Hampshire rival. It has, as said above, "*grown*," though not probably to full stature; Bournemouth is most emphatically "*growing*," and where it will stop seems hard to guess, a strange notion having lately seemed to seize on its traders that it can be made a great town quite apart from its health character (its only real plea for being), and really, as it seems, consequent on no existing cause! Buildings of pretentious, if not of very attractive, design, are carried up to five stories in height where three sufficed before; building sites fetch fabulous prices, and "premiums" over and above these prices are paid to some one or other, but not, it may be presumed, reaching the land-owners' purses.

The architectural visitor to places in this course of growth can learn almost all he may wish to know on local building practice and prospects by looking round the nearly completed "villas," "residences," and "mansions," on the look-out for buyers. He will not probably long have paced about a "villa" plot, and gazed in wonder, perhaps, at the parti-coloured brickwork and multi-styled features and decorations displayed, ere he will be accosted by an unmistakable "builder on speculation," with the inquiry whether he were on the look out for a house? This opens the way for general talk on the building subject at large, and the visitor will learn generally how very little, as a rule, architecture or architects have to do with the strange productions with which they are credited. "Do you design your own houses?" "Well—no, Mr. Dash" (a local architect whose name you know) "designed these for me." "Indeed! Did he design that porch, and the oriel over it?" (!) "Well, no. When I say he designed them for me,—that is, partly, you know,—there wasn't no porch nor hang-out window in his design; but Smith, him as owns them next villies, has been getting of these things out on his, and buyers has got to asking for them, so I gets them out on mine; an improvement, don't you think?" If you go further, and learn what is paid in the way of fees for the design, "partly, you know," of these productions, you will conclude, most likely, that an architect could afford to bestow little thought or study on such work, and that the less he has to do with it the better, as the builder-proprietor is pretty sure to burlesque, by "additions and alterations" after his own heart, whatever of style or character may have been aimed at in the architect's work. There may be two sides to this question, and it may be said that if the speculative builder be left to his own devices, what horrors would result! But in the interests of art (if the phrase be not obsolete), were it not better that its name, even "partly, you know," were kept separate from what in its tolerably certain final shape can only couple it with vulgarity, often with absurdity and gross mal-construction. This is a digression not specially bearing perhaps on either Torquay or Bournemouth, but capable of some application to most of our salt-watering places, from Scarborough to Penzance or Tenby. One very general complaint is made of the want of medium-sized houses at moderate rentals; a gap generally being found between the pretentious high-rented, albeit probably very badly arranged, "villa," and the small, poky, inconvenient "cottage," with no accommodation beyond what would suffice for a retired shopkeeper or small tradesman: this applies to both Torquay and Bournemouth, more emphatically perhaps to the latter. The placing of the dwellings on their plots of land, and the management of the approaches from the road being, at Torquay, from its steep style of site, much more of a problem than at generally level Bournemouth, has led to much more apparent skill and thought, giving the impression that architectural advice, in its reality, has been more usually sought at Torquay; and, indeed, the sobriety and simplicity of design in the majority of the houses conveys a like impression in comparison with the Hampshire town; but the fact that the latter is in a brick district, and has the questionable advantage of easy use of varieties of coloured material may have something to do with this.

While Torquay has its harbours,—the new and the old,—Bournemouth has its pier, an iron-and-wood structure of some merit constructively, but most wonderfully Cockney in its approaches and embellishments. The fact that it was, as may be remembered, opened by the Lord Mayor of the day some years since, may make this character rather appropriate, but the thought will occur of what will happen to these gimcrack appendages if some day a storm-driven sinking vessel has to be hauled up by all the force which can be mustered, and a stout hawser, manned by a score or two of boatmen and fishermen, should sweep along the balustrading! The materials for concrete so abound on the spot (and have been well applied in the substructure of the pier approaches), that another thought occurs to a visitor; why should not a small harbour of concrete block masonry have been formed, large enough to hold a dozen yachts or so, and its bottom flushed by the dammed up waters of the Bourne? The water is shoal, but its depth at the pier-head would have sufficed if carried shoreward, and the means of scour suggested would apparently suffice too. No yachting men or their families will frequent Bournemouth, as there is no near shelter and no good anchorage; a yacht may occasionally drop her anchor for a tide or so off the pier, but the least show of foul weather sends her off post haste to Poole or Lymington; and here, of course, Torquay claims an advantage. Both towns carry their sewage into the sea; Torquay by a costly tunnel having its outlet at Hope's Nose; Bournemouth by three iron pipe discharges, one central at the pier, and other two at some mile or more eastward and westward. Is there never to be found a remedy for this surely false and injurious system? Is it at all possible, tides and currents notwithstanding, that the sea-water can escape pollution, and its use for bathing not be seriously damaged? And is it not a reproach to the economic chemistry of our day that such a waste of fertilising material should take place? The subject in its bearing on our present topic is an unsavoury one, but not perhaps the less suggestive.

In both Torquay and Bournemouth much of what architectural character exists is derived from the ecclesiastical buildings of each; and the principal building of this class in each is the work of the same architect, the late Mr. Street, R.A. St. John's Church, at Torquay, and St. Peter's, at Bournemouth, are both characteristic designs of their very able author, and both perhaps may be considered to illustrate his superiority in internal as compared with external design. Neither the tower of St. John's, Torquay, now just completed, nor the spire of St. Peter's, Bournemouth, added some four years ago, is a very successful work, but the interior effect of both churches is striking; that of the Bournemouth church, probably, the better. There is more of variety (as well as of number) in the Torquay churches, and more names of well-known architects, Mr. Salvin and others, attach to them. Mr. Street was the established adviser in such matters of the well-known church-building vicar of St. Peter's, Bournemouth, the late Rev. A. Morden Bennett, and the parish church and several in outlying districts were of his design; a part of an earlier single-span St. Peter's, however, being retained in the south aisle of the present church. Mr. Norman Shaw, who, in this field of architecture may be regarded as one of Mr. Street's pupils, was the author of two other churches at Bournemouth, one, St. Michael's, being, in a modified form, for the present completed, and St. Swithin's, as yet a chancel only. An elaborate church, from the design of Mr. Pearson, R.A., is in course of building as a memorial to the clergyman just named, the nave being nearly completed; it is groined in stone throughout, and presents features more usually associated with larger buildings,—a triforium passage, for instance,—and is in other respects very characteristic of its author's style. Another incomplete church is St. Clement's, of Mr. Sedding's design; and a Lombard building, by Mr. Ferguson, of Carlisle, Holy Trinity Church, presents, in its plain red brick exterior, a marked contrast to its more ambitious neighbours of stone, its scale being, however, as large as any. No one can visit Bournemouth and converse with residents there on the growth and history of the town without discovering how much of ecclesiastical influence entered into both, and

how largely Mr. Bennett contributed to make its fortunes. A High Churchman, zealous, and liberal in promoting his views, he would seem to have aimed at forming a community of like views exclusively; but doctors would not so limit their recommendations, nor would the climate assume exclusiveness, and thus a separate interest grew up which resulted in the establishment of Holy Trinity church and parish. A rather remarkable design, in Belgian Gothic, is the Roman Catholic church by Mr. H. Clutton, with the comfortable clergy-house annexed to it, where the priests, under Jesuit direction, preside over a congregation consisting partly of those born in their communion, but largely recruited, it is locally stated, from among the surrounding "Anglican" congregations, well prepared, by ritualistic training, for migration to the Marian church.

An immense establishment (for such a town) is nearing completion under the title of the "Mount Dore," for hydropathic purposes, the intention being to localise the various mineral waters of the Continent. The speculation seems bold, and may prove successful, but an outsider may be pardoned, perhaps, for a little scepticism on the point. The varying popularity of health resorts, well evidenced, for instance, by Bath (and even by Torquay itself), should read a lesson to those whose material interests are wrapped up in them, as to the caution which should guide them in laying out building land and in interfering with their natural features. In the latter respect Torquay seems to have been fairly well guided; but the destruction of the pine woods, where not specially protected, about Bournemouth does not afford a similar assurance; and in both places ideas may grow up of unlimited demand for house accommodation which may not unlikely lead to ultimate grievous disappointment and loss.

NEW LIGHT ON A STATUE BY POLYCLEITOS.

WE do not pretend to know why Herr Anton Springer has been holding high festival on May 4th; we can only conjecture that, like Prof. Curtius, he has had an archæological birthday fête. What concerns us is that, in true German fashion, each of his friends has written a learned tract to do him honour, and that to the volume thus collected Dr. Benndorf has contributed an essay* so original and so brilliant that Dr. Springer's birthday book (if birthday book it be) becomes at once for archæologists "epoch-machende."

Literature dealing with the dark places of Pliny's art-criticism already abounds, but, as Dr. Benndorf remarks, it is not usually of a character greatly to encourage further enterprise. Sometimes, but very rarely, archæological discovery, a statue, a coin, an inscription throws to the seeing eye unexpected light, and what was before of hopeless obscurity is instantly obvious. Just such a self-commending interpretation we believe Dr. Benndorf to have given of a passage hitherto torn and vexed by interpreters, given too in a fashion that throws light on literature as well as art.

In the *locus classicus* on the works and style of Polycleitos occurs the following passage:—"Fecit [Polycleitos] . . . . nudum *talo incessentem*, duosque pueros item nudos *talis ludentes*" (Pliny, N. H., xxxiv., 55). Talus bears, of course, two meanings: either it is the ball-like bone of the ankle-joint anatomically, or it is the same bone used as a die to play with. Now in first reading the words, it would strike every one that, whatever *talus* means in the one passage, it must,—considering the close and seemingly intentional juxtaposition,—mean the same in the other; otherwise Pliny has given us a dull and awkward pun. "Pueros talis ludentes" can mean nothing but boys playing with knuckle-bones (*astragaloi*). Groups of boys so playing are a perfectly familiar artistic type, and we can easily believe that Polycleitos made such a group. But when we come to "nudum talo incessentem," if we keep "talus" to mean the die (*astragalos*), what are we to make of the passage? Can we conceive that Polycleitos made the statue of a youth "treading on a die," or was it a youth attacking some one with a die in his hand? Archæologists up to Benndorf's time have decided that the attitude of treading on a die, which from the literary point of view would give the natural meaning to Pliny's words, is from the artistic point of view a posture too unnatural to be maintained as the motive for a statue; the other alternative, "attacking with a die," is a motive worthy of a mere boy, but impossible for a serious athlete: it would turn the statue into a mere bit of *genre*. Driven thus to bay, archæologists have tried emendation. "*Telo* incessentem" would give fair sense, but then it spoils the correspondence evidently intended between the two clauses. "*Talon* incessentem" gives sense, and turns the statue into a mythological piece representing Talos, the mythological, iron watchman of Crete; but this emendation again abolishes the necessary correspondence. Finally, archæologists, by an almost unanimous consensus, decided to give up the "die" interpretation and credit Pliny with a stupid pun. "Talo incessentem" was to mean in some way attacking by means of the heel bone. Gesner ("Chrestomathia Pliniana," p. 920. 9) was the first to begin this line of interpretation,—he suggested "talo incessentem," kicking one foot against the other. This was not felt to be satisfactory either to art or language; and Ottfried Müller ("Handbuch der Archäologie," s. 120, 3) went further, and fared much better. He ingeniously suggests that "talo incessentem" is the Latin form of the Greek ἀποπτερνίζειν, which may roughly be rendered, "to do the heel trick." Polycleitos then, according to Pliny as interpreted by Ottfried Müller, made a statue of a naked youth doing the heel trick. Now, it will at once occur that if this was the motive of the statue the youth must have been "doing the heel trick" with nobody to do it on, as Polycleitos made a single statue, not a group. This, however, is not a fatal objection, as representations of preliminary practice, *i.e.*, the mock or shadow fight (σκιαμαχία), were far from uncommon. Hence this interpretation has met with wide and almost universal acceptance. Urlichs ("Chrestomathia Pliniana," p. 318) considers that this motive of the heel trick is an added instance of the "ponderation" peculiar to the statue of Polycleitos, *i.e.*, the fashion considered to be so characteristic of making his statues stand on one leg (*uno crure ut insisterent*), Prof. Brunn ("Geschichte der Gr. Künstler," i., p. 216) says decidedly that in the statue of the "talo incessentem" we have not a dice-player, but a "wrestler whose peculiar skill consists in his use of the heel." Dr. Overbeck ("Geschichte der Griech. Plastik," i., 397) takes up the same tale. Mr. Perry *more suo* repeats the second-hand verdict "talo incessentem," showing his art in the use of his heels ("Greek and Roman Sculpture," p. 354). Mrs. Mitchell, in like manner ("History of Ancient Art," p. 385), "talo incessens," striking with his heel; only Mr. Murray, with fine caution, declines to translate the untranslateable, and writes "talo incessentem," "whatever that may here mean."

We think if such caution were a little more exercised it would promote sound progress; a blank, frankly acknowledged, stimulates inquiry, but a half explanation, even when known to be inadequate, soon becomes stereotyped and traditional, and lulls the archæological conscience; it is also apt to pervert the instinct of beginners.

Happily, however, there are men whose minds do not gladly suffer a half explanation, who will not strain language in the supposed interests of archæology, but who know that these two are never really at issue, and who in cases of seeming conflict wait for the further light that brings evident reconciliation. Dr. Benndorf felt that the traditional interpretation of "talo incessentem" by "doing the heel trick" sinned first against language by not providing the required correspondence in meaning between "talo" and "talis"; secondly somewhat against art by providing for a statue by Polycleitos a motive difficult, transitional, and unrestful,—a motive, in fact, which we should much more readily associate with the name of Myron than of Polycleitos. Last and chief, he maintains that Pliny could not be translating ἀποπτερνίζειν, because ἀποπτερνίζειν means something wholly different. This takes him to anatomy. The heel part of the feet has three bones, each with their clear and well-defined names both in Latin and Greek; the ankle bone (τὰ σφυρά, *malleoli*), the ball of the heel (ἀστράγαλος, *talus*), the heel bone (πτέρνα, *calx*). Dr. Benndorf does not deny that in common parlance a certain laxity would not naturally beset this terminology, but he maintains, and we think justly, that in translating a Greek term which described a perfectly well-known palæstric *schema* there could be no reason why Pliny should not use the natural and correct equivalent ἀποπτερνίζειν, *calce incessere*.

But Dr. Benndorf goes on to say, "Was Pliny translating ἀποπτερνίζειν at all?" What actually is this palæstric *schema*? Here we must be content to state Dr. Benndorf's conclusion without going in detail through his arguments. The *locus classicus*, on this wrestling *schema*, as in the "Heroikos" of Philostratos, p. 678; ii., p. 146. 4, from this and other passages it is abundantly clear that the *schema* takes place when the wrestler who employs it is on his back, making a feint of defeat (ὁ χαμαὶ κείμενος τρόπος or ὑπτιασμός). It is the *schema* which lends Pindar a fine metaphor (Isth., iii., 65), the *schema* in which the man is in sleight as a fox (μῆτιν δ' ἀλώπηξ), "that spreadeth out her feet, and preventeth the swoop of the eagle." The modern fox is no less crafty. Dr. Benndorf cites Reinecke Fuchs, xii., 169, where there is a long account of how the fox lies on his back feigning defeat, and as the wolf is delivering a homily on preparation for death, the prostrate fox deals him a fatal blow. Now had archæologists taken the trouble to ascertain the strict use of ἀποπτερνιζειν, they would never have ventured to attribute to Polycleitos a statue representing a single athlete prostrate in this attitude.

Here Dr. Benndorf's destructive criticism ends; the "heel trick" theory he has, we think, disposed of for ever. With the field thus clear before him he returns to "talo incessentem." It is an ancient monument, not an ancient text, that has lent him the clue. On the 8th of April, 1878, in front of the steps of the terrace on which the treasure-houses of Olympia stood, there was found, a little south of the seventh treasure-house (counting from the west), a marble basis, in the form of a knuckle-bone die (*astragalos*). This astragalos is published in the "Ausgrabungen," taf. xvi., and a cast was made and sent to Berlin. Examining it, Dr. Benndorf found that on the top there are two distinct foot-marks, surrounded by holes for riveting, showing clearly that a bronze statue once stood actually on this very astragalos. Pliny can now be translated simply and naturally. As we have monumental evidence that a bronze statue actually stood once on an astragalos basis, there is no difficulty in supposing that Polycleitos made just such a statue, and that it was described as γυμνὸς ἀστραγάλῳ ἐπικείμενος, which Pliny, not very clearly understanding, rendered "nudum talo incessentem."

But further there is a strong presumption that this astragalos basis is actually the basis of the statue by Polycleitos of which Pliny wrote. The marks of the feet show that the left foot was firmly planted toe and heel both on the ground, while the right foot hung behind in the true Polycleitean *uno crure* attitude. Of this attitude we have not only literary but positive monumental tradition. Of the many bases discovered at Olympia, one is certainly proved to have supported a statue by the elder and greater Polycleitos, and on this basis (published in the *Arch. Zeit.*, 1882, p. 190) there are marks of the two feet in a position exactly analogous to that of our astragalos basis. But now arises a further question. If we have in

* O. Benndorf, "Ueber ein Werk des älteren Polyklet; Separatabdrück aus: Gesammelte Studien zür Künstgeschichte, eine Festgabe zum 4 Mai, 1885, für Anton Springer."

this basis the actual basis of Pliny's statue of the "talo incessentem," what was the motive of the statue? Whom did it represent, and why was he represented standing on an astragalos? Here we come to the last and perhaps most ingenious portion of Dr. Benndorf's argument. The astragalos must evidently have some meaning, must be in a sense attributive, show the character, or somehow mark the fortune, of the figure it supports. Now, about the symbolism of the astragalos, there is no manner of doubt it constantly indicates fate, good or bad, according as it was cast.

Without going into details of dice-throwing, we may note that of the two long narrow sides of the astragalos one, the broader side, was the easier throw, and consequently unlucky: it was called the χῖον; the other and narrower side was more difficult, and hence the luckier,—it went by the name of κῶον. On this, the lucky side, our astragalos stands. To the Greek eye this would have an obvious meaning. The figure standing on this astragalos in the κῶον throw was somehow a figure of happy omen. It would have been quite possible to suppose the figure was that of a victorious athlete, or even that a pun was intended on his name,—that he was a Coan man, a man of Cos. Such punning monuments are quite in the Greek manner. But there lies at hand a simpler and a finer interpretation. It will be remembered that the astragalos basis was found in front of the terrace of the treasure-houses. Now, Pausanias tells us (v., 14—9) that as he was passing from the Metroon to the Stadium,—passing, therefore, close beneath the treasure-house terrace, as a glance at the plan of the excavations will show,—he noted two altars at the entrance of the Stadium,—one to Hermes Enagonios, *i.e.*, Hermes the patron of athletes, the other to Kairos. He goes on to say that the Chian poet, Ion, had written a hymn in honour of Kairos, and in this hymn made Kairos the youngest of the sons of Zeus. This hymn, it seems very possible, was written to celebrate the inauguration of the cult of Kairos at Olympia.

Drawing together the threads of his argument, Dr. Benndorf conjectures that Polycleitos, who would be roughly the younger contemporary of Ion, made a statue in the honour of this same cultus of Kairos, that the statue stood near the altar seen by Pausanias, and that of this first statue of Kairos we have the astragalos basis.

How probable,—how almost certain,—this conclusion is, we can only see if we examine for a moment the character of this divinity, Kairos. It is the merit of Dr. Curtius to have, in a brilliant essay published some years ago ("Die Darstellungen des Kairos Arch. Zeit.," 1876, p. 1), given the god a new actuality. He is not among the ranks of the early Greek gods. Homer knows nothing of him; he is one of the secondary divinities (δεύτεροι θεοι), the religious conceptions that grew up to answer to the wants of a later and more self-conscious civilisation. Because of this, and because from the want of capital letters in ancient writing, it is hard sometimes to know if Kairos is a person or an abstract noun; he is apt to be somewhat shadowy in our minds. We associate him with late art, we accredit Lysippus with the invention of his sculptured type, and we charge him with a certain cold abstractedness for embodying such a vague personality. Sometimes, indeed, about these secondary gods there is a good deal of shadowiness; sometimes, as Dr. Curtius notes, they obtain in literature and find no place in art, *e.g.*, Angelia, daughter of Hermes; sometimes the reverse, *e.g.*, the god of contests, Agon, of whom statues were made, but who never appears in literature.

But, if we look at facts, Kairos is no such shadowy personage. He is a god, indeed, who is the very outcome of Greek character, and bears the sign manual of the national genius, a god common to Greek literature and Greek art; a god, too, who comes into real being just with the finest flowers of Greek genius, and who loses much of his meaning, all his distinct personality in the decadence of Alexandrian days. The distinction between Chronos and Kairos was only possible to a language instinct with logic. Chronos, time the *continent*, time in its extension, an abstract conception, a condition indeed of thought, but merely the frame, the background of action. Kairos, time the *content*, time possessed by action, time seized and vitalised by human energy, made effective, made actual, time cut off (κείρω), and made momentous, time the inert, transformed into Attic activity (τὸ δραστηρίον). Chronos refused to be localised into a personality, but not so Kairos. He was at home in the palæstra, and there becomes, as an aspect of Hermes, the athlete god, most entirely personal. It was Kairos who seized the lucky moment in the wrestling bout, Kairos who grazed the goal so closely with his chariot-wheels, Kairos to whom all men offered sacrifice as they entered the Stadium, Kairos who guided the hand of the happy dice-player. The statue by Polycleitos we may conceive, then, as a young man fresh and "fit," alert, with winged feet, poised in delicate balance but yet at rest. Such a thought was very far from any conception of mere chance (τυχή), mere good luck; it was the man and the time come together,—man's ability and time's opportunity. But we can readily see how the thought could be vulgarised. Kairos is the god of the man with mind eager to think and body trained to act. Chance is the god of the sluggard and the fool. And, in fact, a thought so perfect as that of Kairos could not and did not tarry long; in the later monuments of art we have the youth balancing the scales of fate on a knife edge (ἐπὶ ξυροῦ ακμῆς), or again the clumsy figure balancing itself on winged wheels, risky, unrestful, and last we have the ugly, literal, unplastic outline of the figure with the bald crown and long locks of hair to the front. The earliest example Dr. Curtius quotes is a mere fragment of Athenian work, one leg and part of the body, but easily recognisable from the curious characteristic pose of the lower limbs thrown far forward.

If we are to believe Kallistratos, the figure of Kairos by Lysippos embodied all these ugly innovations. It stood on a rolling ball, had locks of hair falling on the forehead, and was shaven behind. But if Dr. Benndorf be right, we cannot credit Lysippos with the invention of the type: it must have been traditional in the Peloponnesian school, beginning probably with Polycleitos. It was a subject thoroughly athletic in character, and therefore perfectly suited to Polycleitos and Lysippos. It is quite possible that Lysippos softened the type, investing it with something of the pensive, slightly allegorical manner of Praxiteles, who seems at least as much concerned with the thought as the personality. Very possibly, too, as Mr. Murray suggests ("Hist. Greek Sculpture," ii., p. 340), the statue was "worked out in the older analogy of the god of sleep, Hypnos." Kairos and Hypnos were, indeed, but two aspects of the god Hermes, the god of human action,—Kairos, the effectiveness of actual energy; Hypnos, the no less real and necessary effectiveness of sleep. However, to reconstruct the statue of Lysippos is no part of our purpose; it is enough that Dr. Benndorf has given us new light on a statue by the elder Polycleitos.

Proposed "Shipperies" Exhibition in Liverpool.—It is intended to hold in Liverpool during the year 1886 an Exhibition of Navigation, Travelling, Commerce, and Manufacture, in a building to be specially erected for the purpose. The site chosen is the Edge-lane Hall Estate, adjoining Wavertree Park and the Botanic Gardens, of which an area of about thirty-five acres has been placed at the disposal of the Executive Council by the Corporation of Liverpool; and in addition to this it is hoped that the use of the Botanic Gardens, admirably adapted as they are for out-door *fêtes*, may be granted for that purpose on special occasions. At a recent meeting of the Exhibition Council, the secretary reported that the guarantee fund amounted to 30,025*l*. Sir James A. Picton's name was added to the building committee. Mr. Henry Sumners was requested to act as consulting architect to the exhibition, of which there is every prospect of success.

NOTES.

THE irruption of water into the Houghton-le-Spring Colliery on the 3rd of June has been followed by an explosion of unusually fatal consequences at the Clifton Hall Colliery, near Manchester, on the 18th of the same month. Three hundred and forty-eight men and boys went down that pit on the Thursday morning; and out of this number 214 have been brought up alive, although four of them have since died. Twenty-three bodies were brought up in the course of the day, and forty-one more up to 5 p.m. on the 19th. Contrary to ordinary precedents, no opinion has yet been offered as to the probable cause of the calamity. Walter Travis, one of the miners who were rescued, gave an account of his experience in the case. Three seams of coal are worked from the same shaft. It was in the third, called the Trencherbone seam, that the explosion took place. The depth below the surface is 540 yards, but the seam drops down a steep decline from the shaft, and seven side levels run from it in an oblique direction. "All of us," said Travis, "had been working with candles." No gas had been noticed in the workings; but at 20 minutes past 9 a.m., as the men were at breakfast, an explosion occurred, and the lamps and candles were blown out. The effects of the after-damp became immediately sensible, but the miners managed to put a brattice, and thus maintained such a ventilation as to save their lives. There seems thus little room to doubt that the mine was one ordinarily so free from gas that the dangerous practice of working it with open lights was followed; and that in one of those sudden disengagements of stored up gas, of which we have had so many examples, the blower came in contact with the naked flame, with the fatal result described.

ATTENTION should be directed to the large area of underground gallery that appears to have been worked from a single shaft at the Clifton Hall Colliery. There is a connexion with the Agricroft Colliery, about a mile away, but it is not stated whether this connexion is made in each of the three superposed seams of coal. There is also an upcast shaft, used principally for the purpose of ventilation, but which is provided with a capstan-rope. The cages, however, were jammed by the force of the explosion in the downcast shaft, and it proved impossible to descend to a lower level, so that the extrication of the imprisoned miners had to be effected from the Agricroft mine. One hundred and fifteen men, in one of the upper levels, although uninjured by the explosion, were in imminent danger of suffocation by after-damp. Fuller particulars will, no doubt, be forthcoming as to the ventilation of the mine; but it would seem, from the statement that "two great gaps in the wall of the shaft had opened a communication with the upcast shaft"; that the pits spoken of as distinct were, in fact, one, divided by a wall, for the purpose of ventilation. In workings covering such an area, in which so many lives are risked, it is essential that there should be at least two entirely distinct shafts. We do not mention this as throwing any reflection on the management of the Clifton Hall Colliery, as the connexion with the Agricroft Colliery, to which those rescued owe their lives, may possibly have been all that was needed. But of the need that two distinct shafts, and not one large shaft divided by a brattice or wall, should be insisted on as a condition of the working of a colliery we have here another fatal illustration.

THESE are the facts of the most recent case on the law of light, namely, Bullers *v.* Dickinson, to be found in Law Reports 29, Chancery Division, p. 155. There was an old wooden toll-house in Jacob-street, Bermondsey, which stood out into the road, so that its frontage of 14 ft. 6 in. was not in a line with the rest of the buildings. The ground-floor room was used as a shop, and almost the whole front was filled with a window, which had a right of light attached to it.

Ultimately this old house was pulled down by the owner, and the projecting portion was sold to the vestry for the purpose of widening the street. At once, on the remainder of the site, a brick building, one story high, instead of three, was erected, and a window was placed in this new building substantially on the same level as the old one. But it was several feet further back than the original window, and the room was not more than half the size of that the portion of the site of which it now occupied. In the report from which we take these facts, a small plan is published, any one who desires to refer to it will find it explains the case quite clearly. The light to the new window was obstructed by a new building, and hence an action arose, the contention of the alleged infringer of the right being that the owner of the window had abandoned his right by his treatment of the site. But Mr. Justice Kay held that there had been no abandonment of the right in question, because the rebuilding of the same sized windows in practically the same position, but further back, was not an abandonment of the original right.

IT must be confessed, however, that the judgment in Buller *v.* Dickinson appears to carry the law further than it has yet gone in favour of the owner of an ancient light. It is a comparatively modern extension of the right which allows the owner to claim the old right in regard to a window enlarged or altered in shape, but in such cases the window is in the same position, though not the same in size or form. Here we have a new window in a new place, and in a new wall, for the wall was set back 4 ft. at the west, and 7 ft. 9 in. at the east end, and except that the new window was of the same size and on the same horizontal level as the old window, it appears to have no connexion with it at all. It is easy to imagine a building which might have been an obstruction to the light of the old window, which would not be one to the new window. Hence it appears to us that the owner did not possess the same right of light in the two walls, and it is on the assumption that it is the same right that he is entitled to the protection of the law. It may be that the case will be carried to a Court of Appeal and will there be fully discussed; at present it must be regarded as extending the right of the owner of the dominant tenement in a somewhat startling manner, with a result not altogether to the public advantage.

THE proposed people's palace for the East-end seems to be growing up by degrees into a definite project, the realisation of which may be expected at no very distant date. At a meeting at the Mansion House on Tuesday it was stated by the Chairman, Sir Edmund Hay Currie, that whereas a year ago they were merely trustees of a fund of 11,000*l*., they had now 40,000*l*. in hand. The Institution is proposed to include, when complete, a technical school, a library and museum, as well as means of recreation of various kinds. The Prince of Wales proposed the first resolution, "That this meeting views with satisfaction the progress which has already been made in furthering the great scheme of the Beaumont Trustees for providing opportunities amid the dense population of East London for rational amusement and technical education; and having regard to the eligible site now vacant in the Mile End-road, would urge the Trustees to complete the purchase of the land and commence the erection of the necessary buildings." The resolution was seconded by the Archbishop of Canterbury, and carried unanimously.

IT is to be hoped that those philanthropists who have been interesting themselves in the question of housing the poor will not rest satisfied with improving the slums and rookeries of our great towns, but that they will be able to keep an eye on the dwellings inhabited by artisans in special trades. Of these, colliers and miners are notorious sufferers, as everybody knows who is acquainted with mining districts, though it must be admitted that the barren and unprepossessing character of the neighbourhood, with its dreary spoil-banks and slag-tips, give the locality the slenderest chance of looking attractive. Many a grimy and blackened exterior contains a comfortable home within, though the majority, whether in Durham, Staffordshire, or South Wales, are very far from being what they ought to be. One cause of this is that the ground, being so worked out underneath, is apt to settle, causing all kinds of irregularities and cracks in the walls of the dwellings; but the chief reason is that, as a rule, mine-owners are not the proprietors of the land around and about the mines, and are unable to build houses for their workmen, owing to the short leases generally allowed by the ground landlord. When colliery proprietors are also owners of the soil, and are inclined to do the right thing, as at Earl Fitzwilliam's pits in Yorkshire, and those of the Staveley Company in Derbyshire, the building of proper houses has had the happiest effect, not only on the good health and sanitation of the community, but in the prevention of that constant change and migration that is such a feature amongst men of this class. Owners should bear in mind that the investment in home comforts for their "hands" is always a paying one, and that a workman becomes more and more valuable the longer that he stays in the same place.

THE disused burial-ground in Union-street, Southwark, known by the ghastly name of the "Crossbones," was recently sold by the trustees of a local charity, to whom it belonged, for 2,300*l*. The Metropolitan Public Gardens Association, fearing that a further attempt may be made to utilise the ground for building purposes, have memoralised the Metropolitan Board of Works to take steps to prevent the ground in question being used for the erection of houses. It may be true, as the poet says, that "the earth rings hollow 'neath our feet, and warns us of her dead," and that in most ancient cities there are but few localities that have not, at some time or other, been used for the purpose of interment, but it is desirable that some time should elapse before "the house appointed for all living" should be converted into eligible building plots.

AT Pasadena, one of the colonies round Los Angeles, some 500 miles south of San Francisco, a system of irrigation is carried on by the agency of companies, who supply the water for agricultural as well as domestic purposes. Owing to its scarcity the water is so valuable that it has to be conveyed by pipes in order to save loss from evaporation and soakage. The head of water allowed to each 250 dollar share of stock in the Association is 25 inches for 1½ hour, sufficient to irrigate 10 acres, the original value of which, from 1½ to 2½ dollars only, has risen to between 250 and 350 dollars when set out with orange and other fruit trees, so enormously valuable is the effect of irrigation. The pipes, locally termed "laminated," are formed by inserting one sheet-iron pipe into another little larger pipe, and joining the whole together by filling the space between the two with asphalte. The two pipes are made in sections, 8 ft. long, rolled, lapped an inch, and welded by a composition solder that makes the joint actually stronger than the iron itself, as proved by experiments, in which it was found that the iron always ripped while the joint remained sound. The inner shell is telescoped into the outer while immersed in hot asphalte, specially prepared, giving a thickness between the shells of 1-16th of an inch, which prevents the possibility of corrosion and forms a strong band. Pipes 4 in. in diameter thus made are guaranteed to stand a pressure of 500 lb. to the square inch, whereas riveted pipes of the same size begin to leak at 150 lb., and, at 250 lb., are unfit to conduct water. The net returns from irrigated orange groves, after paying all expenses, are said to vary from 250 to 500 dollars, or, roughly, from 50*l*. to 100*l*. per acre. The Irrigation Commission, deputed by the Australian Colonies to America, is publishing much useful information on the subject.

SOME time ago Mr. Gladstone intimated to the Lord Provost of Edinburgh his desire to restore the ancient city cross, removed about the beginning of this century from the High-street, as it was considered an obstruction to the thoroughfare, an incident referred to in Scott's spirited lines :—

> "Dun-Edin's cross, a pillar'd stone,
> Rose on a turret octagon;
> But now is raised that monument,
> Whence royal edict rang,
> And voice of Scotland's law was sent
> In glorious trumpet clang.
> Oh! be his tomb as lead to lead
> Upon its dull destroyer's head!
> A minstrel's malison is said."

This cross was erected in place of an earlier structure removed in 1617 upon the occasion of the visit of James VI. to his native country. It consisted of an octagonal structure about 18 ft. in diameter and 15 ft. high, having at each angle Ionic columns, from the capitals of which were corbelled out small rounded turrets. Between these columns the wall-space was contained within semicircular arches, with key-stones and key-blocks. In the upper part of each arch there were sculptured medallions containing heads having no particular value historically or artistically. These medallions were secured by Sir Walter Scott, and are built into the garden-wall at Abbotsford. There they form a more interesting object than they would be if incorporated into the restored (or rather new edition) of the old cross. Access to the flat roof of the octagon was gained by a staircase, which was guarded at the foot by a heavy oak door studded with iron nails. In the centre of the platform stood an octagonal shaft about 30 ft. in height, having a capital of Late Gothic character, upon which was placed a rampant unicorn bearing the royal standard. This shaft now stands within the railings of St. Giles's Cathedral, where it was placed about ten years ago. The shaft is much chipped, and is encased in a coating of cement. It is proposed to incorporate this shaft with the new structure, but it would, in our opinion, be better to allow it to remain where it is to tell its own tale, and to make a facsimile of it for the new structure. Mr. Gladstone has entrusted to Mr. Sydney Mitchell, architect, the work of preparing the design, and the Town Council have fixed upon a site to the eastward of St. Giles's Cathedral and to the westward of the Police Buildings, a site most suitable in all respects, and close to where the old structure stood.

THE progress of the works of Herr Krupp at Essen may be said to be one of the marvels of modern industry. The most recent and authentic data show that in 1860 the total number of workmen employed by Herr Krupp was 1,764. In 1870 they had increased to 7,084. At the present time (1885) the total number employed in all the establishments of Herr Krupp exceeds 20,000. If we add the wives and children dependent upon the workmen, the total number of persons supported by the Krupp works is not less than 65,381. Of this number fully 29,000 dwell in cottages built by Herr Krupp, and belonging to his works. There are eight separate and distinct departments belonging to this enormous concern. In the first place, we have the vast extent of workshops at Essen; secondly, three coal-mines at Essen and Bochum; thirdly, no fewer than 547 iron-ore mines in various parts of Germany; fourthly, several iron mines near Bilbao, in Spain; fifthly, an extensive series of smelting-furnaces; and sixthly, the ranges at Meppen, for the testing of the Krupp guns. Besides the eleven smelting-furnaces there are 1,542 puddling and heating furnaces. The number of steam-boilers employed on Herr Krupp's works is 439, and the total horse-power of the 450 steam-engines in use is 185,000. There are thirty-seven miles of railway in the works, on which the traffic is performed by eighty-eight locomotive engines, and a park of 893 luggage-wagons. There are no fewer than thirty-five telegraph-stations, with forty miles of telegraph-wire and fifty-five Morse apparatus in operation on the works.

IN reference to the recent Congress of French Architects, we are asked to mention that the morning of Friday, the 12th of June, was specially reserved for the consideration of the subject of the "Caisse de Défense Mutuelle des Architectes," of which we have more than once spoken. At that sitting the new association was constituted, and its statutes approved, subject to confirmation by a general assembly, to be held next November. The powers of the committee of organisation, now become the committee of administration, have been prorogued until the meeting of that assembly.

THE new branch offices for the Bank of Scotland in George-street, Edinburgh, form an important addition to the architectural features of that street. The building has been designed by Messrs. Kinnear & Peddie, who have adopted the severe style of Italian Renaissance practised in Florence. The ground-floor is boldly rusticated, and the windows consist of large circular-headed openings, divided by stone transoms supported by fluted columns. These are flanked by doorways, the western one leading to the bank proper being emphasised by a portico of coupled columns with a pediment filled in with the cognisance of the bank, executed by Mr. D. W. Stevenson, A.R.S.A. The first-floor windows are surmounted by pediments supported by fluted columns, and those in the third and uppermost floor are framed by moulded architraves, and the wall-head is finished by a boldly-projecting dentilled cornice. There is an unusual amount of wall space in the upper stories, which gives a dignified and severe aspect to the façade, in keeping with the purposes of the building, but the general effect, although every detail is perfectly correct, is cold and uninteresting.

AT Messrs. Bellman & Ivey's rooms at 37, Piccadilly, there is at present on view a collection of the productions of Mr. T. W. Maclean, the sculptor, which includes some very admirable work. The largest group is a marble one suggested by, or rather a reproduction in sculpture of, two figures in the painting of the "Spring Festival" by Mr. Alma Tadema. Mr. Maclean has succeeded very well in giving in sculpture the type of sensuous Roman face which we know so well in Mr. Tadema's paintings; but we prefer his more original figure entitled "Comedy," in which he has succeeded in imparting a very genuine *vis comica* to the countenance without transgressing the proper limits of sculptural expression. There are other fine works there, especially a marble bust, "Meditation," a monument (terra-cotta bas-relief) to be erected in Weeting Church, Norfolk, and the terra-cotta version of the "Ione," which will be remembered as an object of attraction in the Grosvenor Gallery some time since.

THE SPECULATING BUILDER.

THE speculating builder, like the long-suffering Israelite, is a member of a separate caste. Like him he is become a necessary unit in our social life, and like him is the bearer of much unmerited obloquy. His very name sounds an alarm to suspicion and distrust. His astuteness, which all allow, is exaggerated at the expense of his integrity, which all are prone to deny.

Abused and avoided, he is, nevertheless, secretly admired by an intensely commercial world as the possessor of occult and mysterious powers which make for wealth. His real business is not building, but finance; and in the skill or maladroitness with which he picks his way through complicated financial problems lies his good or evil fortune. In all this he reflects the characteristics of his ancient counterpart. And there are said to be other resemblances upon which we need not insist. As with other original and adventurous minds, the exercise of his genius is variously rewarded. The lives of some of the brotherhood are bound in shallows and in miseries; whilst others attain wealth, position, even rank, and the good or ill which these bring in their train. There have been, and there are, speculating builders of liberal views and unimpeachable character; whose business calls for administrative powers of a high order, and who have found the wisdom of entrusting the architectural section of their works to architects,—but these do not fall within the scope of our little sketch. Mr. Balbus is a good typical illustration of the class with which we are dealing. Uneducated, or, at best, ill-educated, he was heavily handicapped in life's race, and his success is so much the more to his credit. Beginning life as a bricklayer, it soon became apparent that he was born for better things. From taking work by the job he speedily became a sub-contractor on a more comprehensive scale, and under his gentle compulsion an army of meaner mortals called rapidly into being some miles of those elegant but precarious tenements which adorn our London suburbs. His spirit of enterprise was not to stop here. Backed by his small accumulation of capital and that of a friendly publican, he negotiated on his own account for a large "take" of land which was then in the market, and available for the erection of those genteel villas for which, the lessor intimated, an overflowing and excited population was absolutely clamouring. The land was situated in what is known to some as an "improving" neighbourhood. Now the improvement of neighbourhoods is our friend's *spécialité*. In this he is *facile princeps*. His plan is simple and effective. Take a meadow, the larger the better. Cut down the fringing elms and grub up the hedges. Break up the surface into small sections of a few feet square by running tracks of broken rubbish through it. If the subsoil be gravel dig it up and sell it. You will not, of course, save it for concrete, or the sand for mortar. We assume you are not a simpleton. Any extravagance of that kind would never prosper. You then fill in the pits with refuse matter, and proceed to build thereover small, slender, rickety brick shells, divided up horizontally and vertically by strips of deal. An artful arrangement of battens supporting a thin film of slate furnishes a roof; and the painter, plasterer, and paperhanger convert them like magic into the brightest, stickiest, and genteelest of villas, which are occupied before the paint is dry. They are damp. They are cold. They are hot. What of that? They let. The builder sells them: he sells the improved ground-rents he has created, and before his handiwork has time to come to pieces, he is off. He found a solitude, and leaves a slum, and he walks away serenely satisfied with the result, and looks around for some secluded spot in want of similar "improvement." A more questionable form of improvement consists in buying some fine old mansion, with its eight or ten acres of pleasure-grounds, such as you saw till lately on the margin of our London commons, and within memory bounding many an open green within the postal radius. The house is pulled down, and sold piecemeal, the gardens desecrated, the birds are driven from their immemorial home, and a general havoc is made. Roads are driven longitudinally through the whole, and rows of showy houses stare at each other in long broken lines, as monotonous and uninteresting as the lives of their inhabitants. But his effrontery reaches the sublime when he leases a disused burial-ground for the basis of his operations, and builds houses for the living on the decayed and decaying dwelling-places of the dead. By such arts as these Balbus grows rich; and to be rich is to be respected. He is a member of the vestry, and eloquent on all questions affecting the sanitary legislation of the parish. He is also on very good terms with the surveyor, and particularly so with the inspectors of nuisances. It is needless to say that he is a stanch supporter of the local building societies, whose members relieve him of the genteel residences which he erects. He retains a few of the better-built for his missus, and he appears to have some unexplained mysterious interest in many of those which have nominally passed out of his hands. He is a tall, dark, saturnine man, with a hard, weather-beaten face, and small, keen, restless eyes; able to say curt and even strong things to tenants who complain and want something done; but full of jests and pleasantries to "the little dears wot is agoing to pay." He drives a very shiny "village" cart, drawn by a very sleek and knowing pony, who evidently sees through his master, and disapproves of many of his ways. With this equipage he is always going to and fro upon the earth collecting his rents, looking after his men, and prospecting new localities yearning for his improving touch. His own house is large and elaborate, and was built for a City gent, who did not live (financially) to inhabit it. An architect designed it,—an incipient architect, that is,—and the original design was by no means a bad one. But the builder's fatal talent for improvement could not be at rest. The instinct which leads little boys to embellish the theatrical posters by putting moustachios on the ladies' lips, and pipes in their lovers' mouths, induced our friend to add little twirls and flourishes to the work of his collaborateur. A good deal may be done with a sprinkling of terra-cotta vases, a few glazed tiles, and a dash of cast-iron crestings and finials; and the free use of a miscellaneous assortment of these articles, bought cheap, added much artistic interest to the original scheme. The good man opens his own splendid front door in his shirt-sleeves and shows you his house and grounds, his carriage-sweep and greenhouse, his dados and centre flowers, with pardonable pride; and in the rustic summer-house in the remotest corner of the grounds, his friends from town on Sunday afternoons calmly smoke their long pipes and sip their brandy and water, listening contentedly for the hundredth time to the incidents of their friend's unbroken successes. As a rule he has rather a contempt for art, and looks upon it as "'umbug." That which suits his customers and is pretty in their eyes is pretty in his. But his own house is an exception. There he has "garnered up his heart," and regardless of cost, has shown once for all that when so minded "Todgers's *can* do it." His sons will not follow the business. They know that they will be fairly provided for. One is to be a lawyer; for experience has taught his father that one way or another much of the current coin of the realm finds its way into the lawyers' pockets. His daughters have a dreary time with their upstart neighbours, who keep persistently aloof. The fact is that Mrs. B.'s "ways are peculiar," and social intercourse is beset with some curious little risks and surprises. But the whole family share the paternal skill in finance, and the next generation will set these little matters straight. The old gentleman with his shirt-sleeves and long pipe, and the old lady with her strange orthoepy, will have moved off; and the family of Balbus will take the position in the world to which their talents and their means entitle them. There is another side to the picture. The speculating builder, with too little capital and too much conscience, is like to have a hard time of it. Demands come upon him from all quarters. From lawyers and their mysterious City friends, from surveyors and ground landlords, from brick merchants, timber merchants, and merchants innumerable. The outgoings are manifold and inevitable. The incomings are precarious and problematical. In the endeavour to live he is often unjust to others, and others are not always just to him. If, however, he were to consult their interest before his own he would be unlike the rest of the world. That his calling is not an abnormally profitable one is shown by the fact that his Israelitish counterpart does not engage in it. Perhaps he is too honest. And if our friend Balbus were too much overweighted with this quality,—well, he would never live in the house he does, and drive Mrs. B. to "the Oaks" in his own trap.

COMMON THINGS.

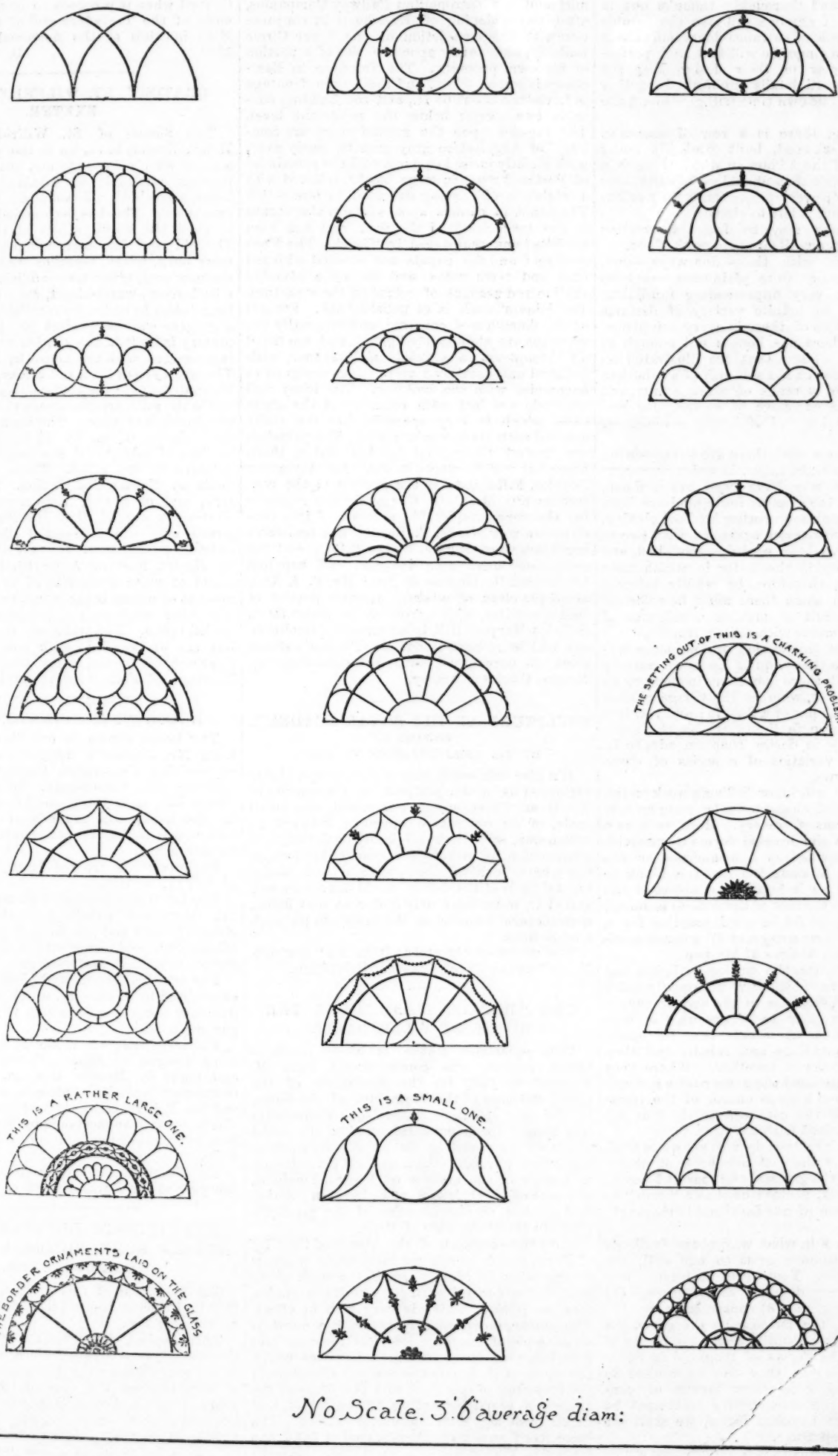
AN ARCHITECT'S NOTES.

As in other subjects of study, so in architecture, there is a great deal to be learned from the common things that we pass every day on our way to business. Putting aside the work of the last fifty years, which we may claim as our own, and which undoubtedly contains more good points than it is generally allowed to do, there is much pleasure to be derived from the study of the numberless quiet buildings previously erected and that did not come under the influence of the Greek and Gothic revivals.

The English Renaissance, if traced from the beginning of the sixteenth century to its interruption by those revivals, will be found to reveal several successive waves of style, each bearing on its crest a distinct individuality, and all moving forward towards an ever-distant shore.

The rock of revivals upreared itself and checked these waves in mid-ocean and broke

FAN LIGHTS.


THE SETTING OUT OF THIS IS A CHARMING PROBLEM.
THIS IS A RATHER LARGE ONE.
THIS IS A SMALL ONE.
THE BORDER ORNAMENTS LAID ON THE GLASS

No Scale. 3'6" average diam:

F.

See Article on "Common Things."

their crests into confused spray, which, however, is now gradually settling down again, and the wave is on its way, leaving, we hope, the rock far behind.

How interesting it is to watch the robust woodwork of the early part of the eighteenth century passing through softening changes until, towards its close, it becomes refined and delicate, and thoroughly thought out in every detail. If any one will take the trouble to examine a row of entrance-doors built about a hundred years ago, he will find such perfection of grammar in their design that the sight of haphazard details pitchforked together in the work of our own time will give him quite a shock.

For instance, there is a row of houses in Kennington Park-road, built probably under the influence of the Adams, in which there is a series of porticos that should satisfy the most fastidious taste; every projection is duly calculated for, nothing is left to chance.

Such doorways may be found in various towns; for instance, Deal teems with them.

In connexion with these doorways,—and, indeed, with many quite plain ones,—may be observed their very unpretending fan-lights, which exhibit an infinite variety of designs. One passes dozens of these in every neighbourhood, where there are houses old enough to contain them. Those that are illustrated on p. 897 may be seen on *one* side only of a suburban road, and within a range of about a mile and a half, and are exclusive of rectangular and elliptical fan-lights and of larger semicircular ones.

It will be seen that there are twenty-seven varieties in this short space, in which numerous similar houses may have been taken down, while many of the existing fanlights have been filled with plate glass and other kinds of glazing. And these twenty-seven examples, with two or three more, have been copied,—good, bad, and indifferent,—just in the order in which they came. It will, therefore, be readily inferred that in London alone there must be sufficient varieties to admit of making a selection of really good examples with a little trouble.

The houses of this period are no more sensational in style than a quiet Mediæval country church,—indeed, there is nothing in them to go into ecstacies over, whereas the village church might inspire the pen of a Ruskin; and yet, in a humble way, these fanlights exhibit the same kind of fertility in design that we admire in following the varieties of a series of stone traceried windows.

Many readers will know Billing's work on the infinite number of changes to be rung on certain leading forms of tracery. Here we have a great variety in the leading forms themselves. All that is provided is a semicircle, or the greater portion of one; the rest is a blank to be filled. And as it is *not* the object of the writer that even the best of these designs should be *imitated*, it would be good practice for a student to put these away and fill a dozen semicircles with fresh designs of his own.

As to construction, the earlier fanlights had wooden sash bars, which were necessarily thick and presented difficulties in the way of curved lines. These appear to be executed in lead or other soft metal, which can be easily "run" with mouldings and rebate, and then be bent and soldered together. Where very delicate parts are used the glass passes entirely behind them, and a great charm of the treatment consists in the cast ornaments that are so happily combined with the bars.

Imitative architecture is not yet quite dead amongst us, and the last new book of photographs, even of the grossest and coarest Flemish Renaissance work, is often used as a "crib" to re-appear in some of our fashionable thoroughfares.

If it be asked in what way these fanlights may bring legitimate grist to our mill, the answer is simple. There are, at least, three elements in every detail of architecture,—(1) purpose, (2) form, and (3) construction.

If, therefore, the purpose be the same, the modern designer should invent new forms of fanlights. If the forms of these old fanlights be found suggestive, they can be applied to other purposes, with other means of construction. If the constructive treatment be found applicable to other forms, we shall get another fresh departure.

It is by such means that the successive styles of architecture have been developed, but by direct imitation—never.

Illustrations.

SIR HENRY PEEK'S NEW PREMISES IN EASTCHEAP.

THESE premises have recently been erected, partly upon land purchased by the baronet from the Joint Committee of the Metropolitan Railway Companies, after the widening of Eastcheap in conjunction with the completion of the Inner Circle Railway, and partly upon the site of a portion of his own property. The frontage in Eastcheap is about 85 ft., and the return frontage in Love-lane about 65 ft., and the building contains two stories below the pavement level. The façades upon the ground story are composed of Argyleshire gray granite, finely axed, with slightly incised carving, and the remainder of Portland stone in large blocks, relieved with a minimum of carving executed in low relief. The panel of camels upon the circular corner is the trade-mark of the firm, and has been modelled and sculptured by Theed. The Mansard roof and the cupola are covered with red tiles and terra cotta, and impart a pleasing skyline and amount of colour to the structure. The joiners' work is of polished oak. Several of the floors are of concrete, and internally the premises are abundantly lighted, and are fitted up throughout in a substantial manner, with polished oak partitions and fittings designed to harmonise with the building. The lobby and vestibule are laid with mosaic, and the staircase, which is very spacious, has the stairs covered with Hawksley's treads. The premises are heated throughout by hot water, there being but two fireplaces in use. Mr. Alexander Peebles, F.R.I.B.A., is the architect; the contractor was Mr. J. T. Chappell; the engineer for the very considerable amount of iron construction was Mr. M. T. Shaw; the hot-water engineers were Messrs. Waller & Co.; and the gas-fittings have been designed and supplied by Messrs. H. Greene & Son; Mr. P. J. King being the clerk of works. Another portion of these premises, with a frontage of about 50 ft. in Saint-Mary-at-Hill, is in course of demolition, and will be re-built under Mr. Peebles's directions, to correspond with this building, by Messrs. Clarke & Bracey.

SCULPTURE AT THE ROYAL ACADEMY.

"EDWARD I."

BY MR. HAMO THORNYCROFT, A.R.A.

WE give this week, from a photograph kindly furnished us by the sculptor, an illustration of Mr. Hamo Thornycroft's wax model, on a small scale, of an equestrian figure of Edward I., which was, we believe, originally designed for a competition for statues for Blackfriars Bridge, for which position the powerful and monumental style of the design would have very well suited it, were there only a decent and fitting architectural pedestal on the bridge to put such a work upon.

The model of the statue is in the "Lecture-Room" at the Royal Academy Exhibition.

THE "HERAUT D'ARMES" AT THE HÔTEL DE VILLE, PARIS.

THIS equestrian statue, of which we have before spoken, was commissioned from M. Fremiet in 1882 for the decoration of the grand staircase of the Prefecture of the Seine, in the new Hôtel de Ville. The commission was simply for a candelabrum, but the artist produced the model in plaster of this work to serve that purpose, which was afterwards cast in bronze in the ateliers of Messrs. Thiebaut, at a cost of 10,000 francs, and placed in position in April last, on the occasion of the great *fête* given in aid of the poor of Paris.

With the exception of the blazon of the City of Paris, which stands out in coloured enamels on the mantelet of the herald, the work offers now, in its general surface, a uniform golden tone or *patina*, which is very rich in effect. The statue, independently of artistic merit, is an example of the archæological resource and knowledge of costume and accessories which the works of M. Fremiet have always displayed; the trappings of the horse and the dress of the horseman are all according to the period, and taken from the most authentic sources. The lamp itself was scrupulously copied from one figured in Viollet-le-Duc's remarkable and well-known work. The stem serves as a gas-pipe to feed six burners, disposed in corona form.

We may add, in conclusion, that M. Fremiet has been engaged in the study of a project for an addition to the decoration of the garden of the Trocadéro, and which comprises groups of animals emerging from the pool of water which falls in cascades in the midst of the lawns opposite the exhibition palace. This project will be submitted to the approbation of the Muncipal Council when it proceeds to consider the treatment of the Trocadéro and of the Champs de Mars in view of the universal exhibition of 1889.

R. B. FENWICK.

ORATORY, ST. WILFRID'S HOUSE, EXETER.

THE Sisters of St. Wilfrid's House, or Home, Exeter, have, up to the present, rented a house for their occupation, but it having been thought advisable to establish a permanent home, a freehold, old-fashioned house has been purchased. This has been added to and altered to meet the requirements of the community. The old roof has been taken off, and another story built, which, together with the rooms in the new roof, gives nine additional bed-rooms, a bath-room, water-closet, &c. Great care has been taken to make the ventilation and sanitary arrangements as perfect as possible. The oratory is built in the garden at the back, and is connected with the house by a covered way. The walls are of local red bricks, with Corsham Down dressings; the roof covered with red tiles; inside the walls are plastered; the roof and other woodwork is of pine. The floors are formed of deal blocks, 6¾ in. by 2¼ in. by 2¼ in. with borders of salt-glazed stoneware tiles, having patterns in low relief. These were specially made by Messrs. Cliff & Son. They are very true, and of a rich red-brown colour. The altar-steps are of Red Mansfield, the spaces paved with the salt-glazed tiles mixed with ordinary paving tiles. The east window, supplied by Messrs. Burlison & Grylls, is chiefly composed of white glass with silver stains, a small amount of colour being introduced to give tone. The other windows are temporarily filled with leaded lights. The stalls, &c., are not yet made, but are to be of English oak. Mr. Thomas Sharland, of Exeter, is the builder, and Mr. F. Newman, of Folkestone, the architect.

HOUSE AT KENSINGTON COURT.

THE house shown in our illustration is built from Mr. Jackson's designs, at Kensington, overlooking Kensington Gardens, and nearly opposite the Palace-gate. It stands upon a corner site, upon the ground formerly occupied by the house and grounds of Baron Albert Grant, and is the first house begun and finished on this estate.

The materials are red brick, with dressings of buff terra cotta.

The interior is finished with an oak staircase, oak floors and panelling in the best rooms, chimneypieces and panelling of painted deal in other rooms, and pavements of black and white marble in the hall and passage.

The principal rooms and passages and offices are lighted by electricity, which is generated by dynamos the power for which is supplied by a gas engine.

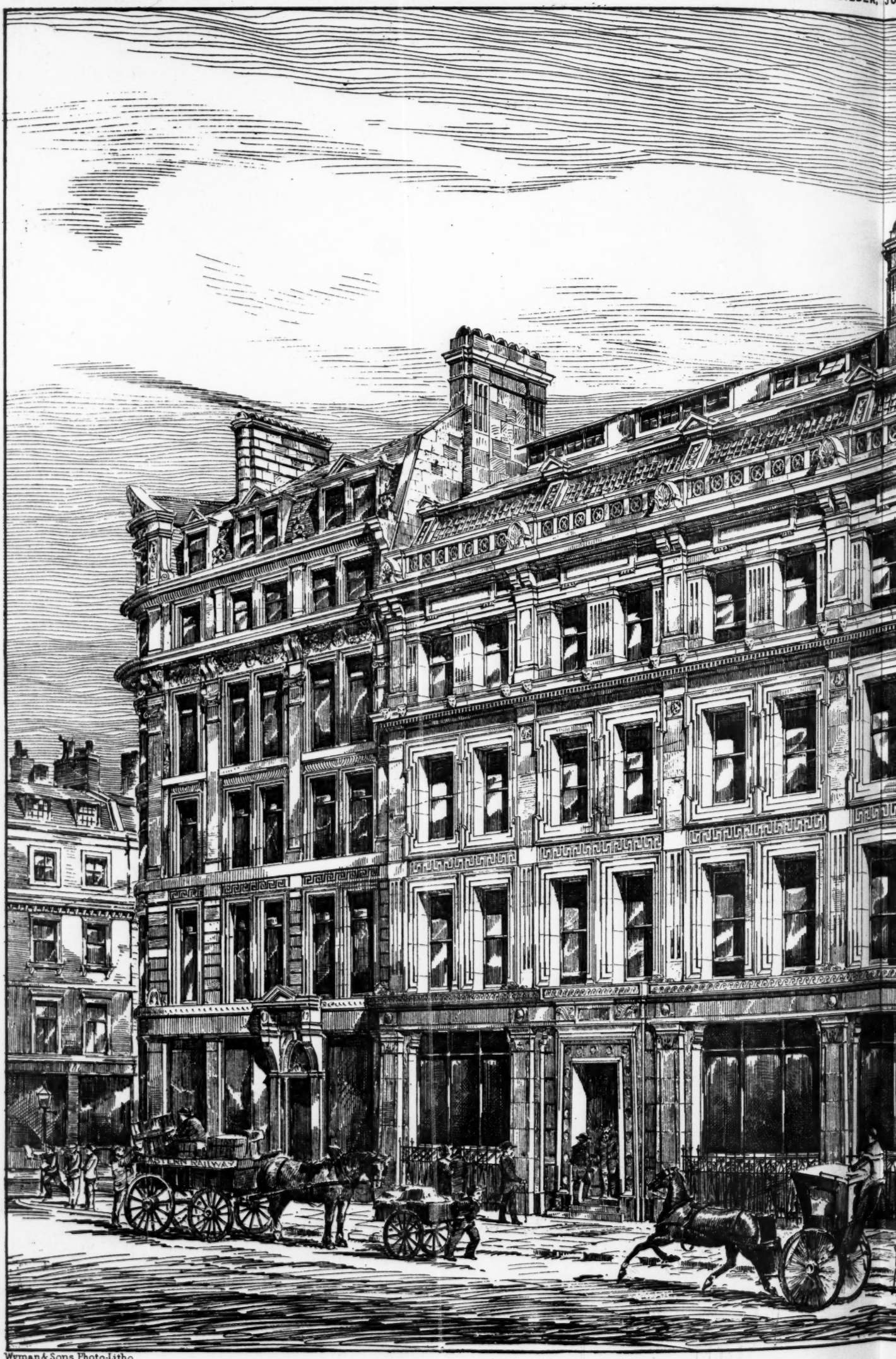
The terra cotta was modelled from Mr. Jackson's designs by Messrs. Farmer & Brindley, and made by Messrs. Doulton. The general contractor was Mr. Estcourt, of Gloucester; and Mr. Robert Edwards was clerk of works. The hot-water apparatus is by Messrs. Haden & Son, and the electric lighting by Messrs. Strode & Co.

The illustration is from a drawing exhibited this year at the Royal Academy.

OUT-PATIENTS' DEPARTMENT AND NURSES' HOME, VICTORIA HOSPITAL FOR CHILDREN.

THE first stone of this building was laid by H.R.H. Princess Louise (Marchioness of Lorne) on Tuesday last.

This hospital, situated at the junction of Tite-street and Queen's-road, Chelsea, was established in the year 1866 for the treatment as in-patients of boys between the ages of two and twelve years of age, and of girls between the ages of two and sixteen; also as out-patients all children under sixteen years. It is also a training-school of nurses for children. The management of the building generally is conducted by a board, of which Mr. Harvie Farquhar is chairman, and



Wyman & Sons, Photo-Litho.

NEW PREMISES FOR SIR H. PEEK, BART., EASTC

EASTCHEAP.—Mr. A. Peebles, F.R.I.B.A., Architect.

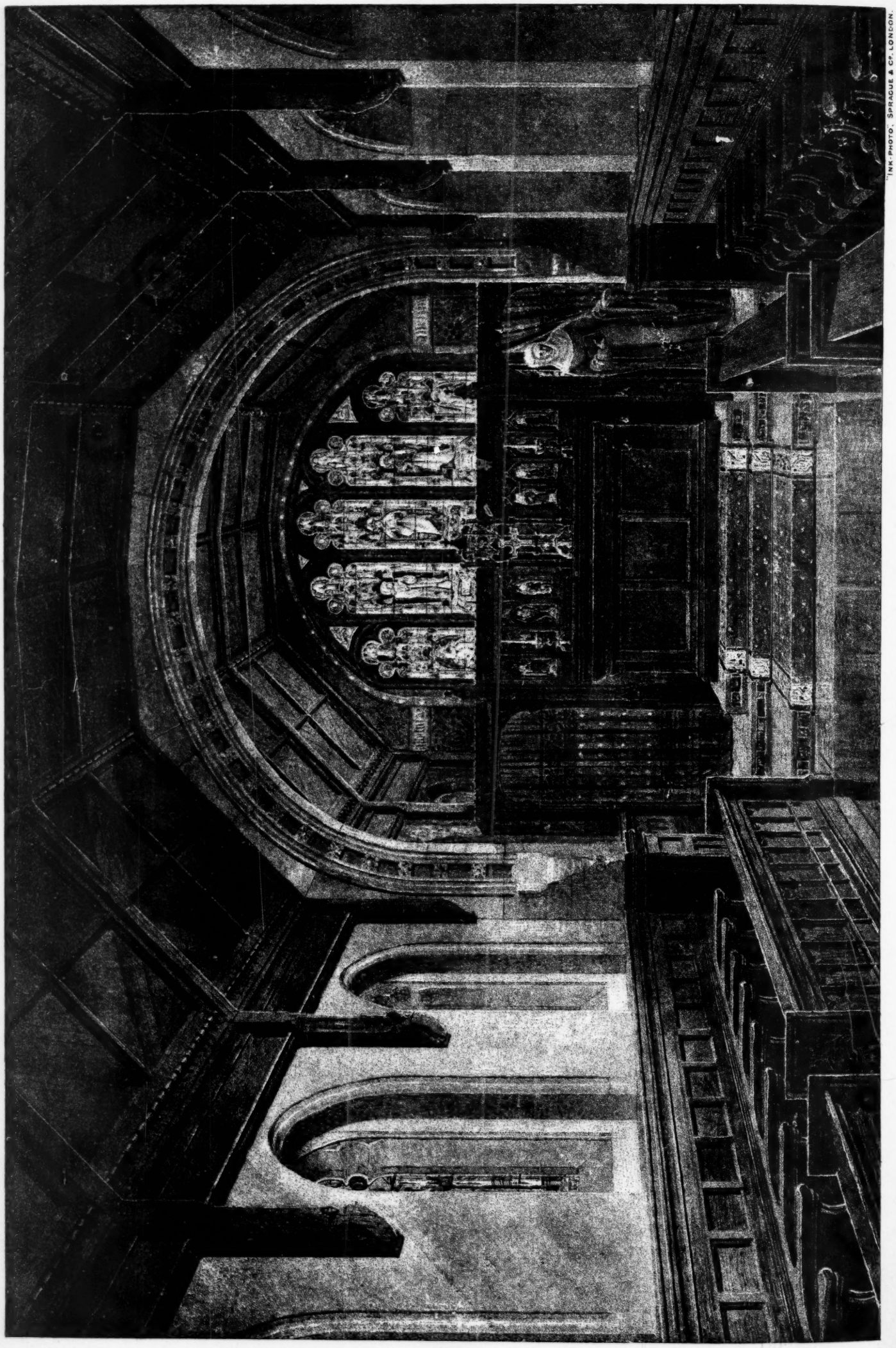
C.t Queen St London, W.C

VICTORIA HOSPITAL FOR CHILDREN

OUTPATIENTS' DEPARTMENT & NURSES' RESIDENCE

H. SAXON SNELL & SON ARCHTS

Wyman & Sons, Photo-Litho. Cr Queen St London, W.C



ORATORY, ST WILFRID'S HOUSE, EXETER

Mr F Newman, Architect.

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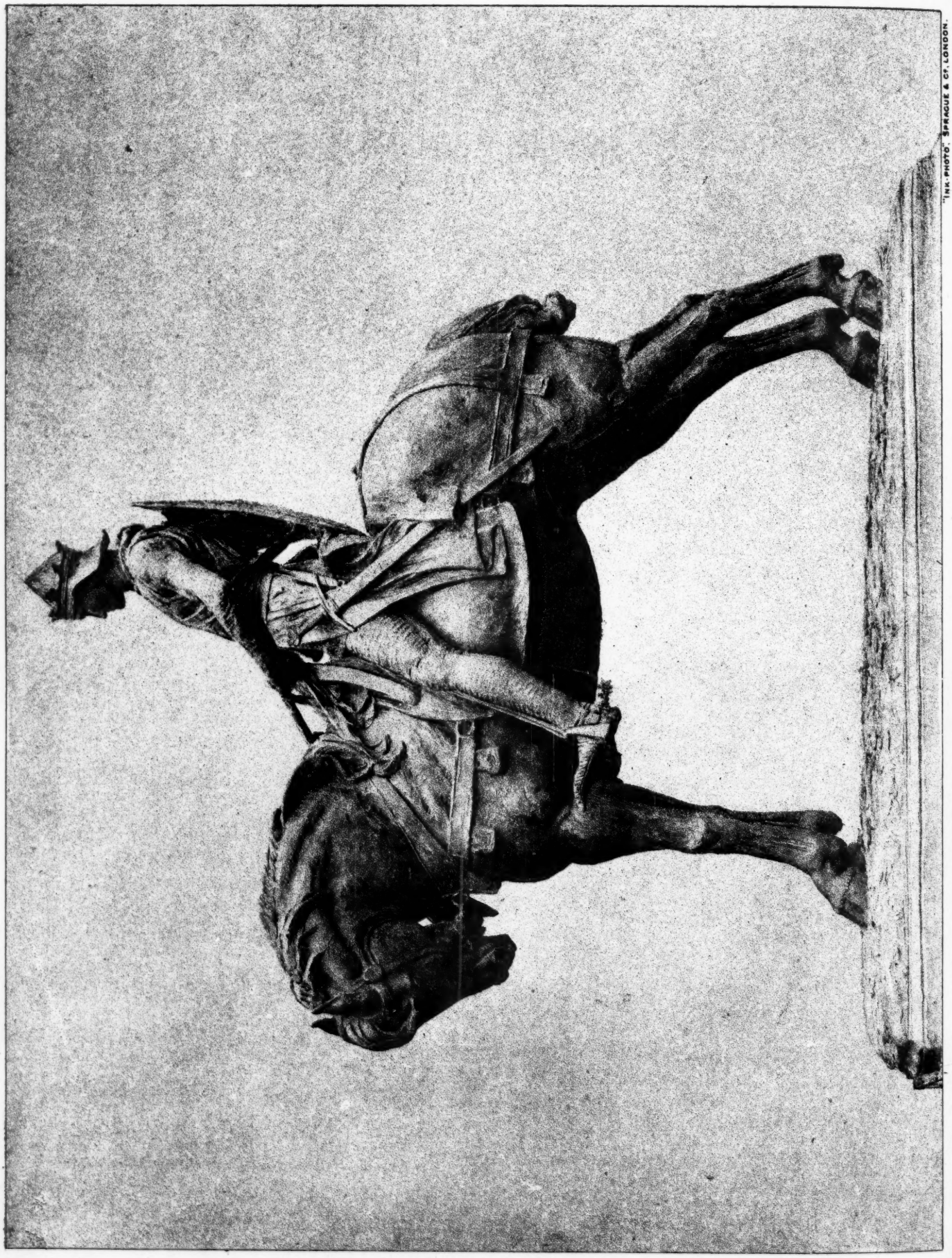
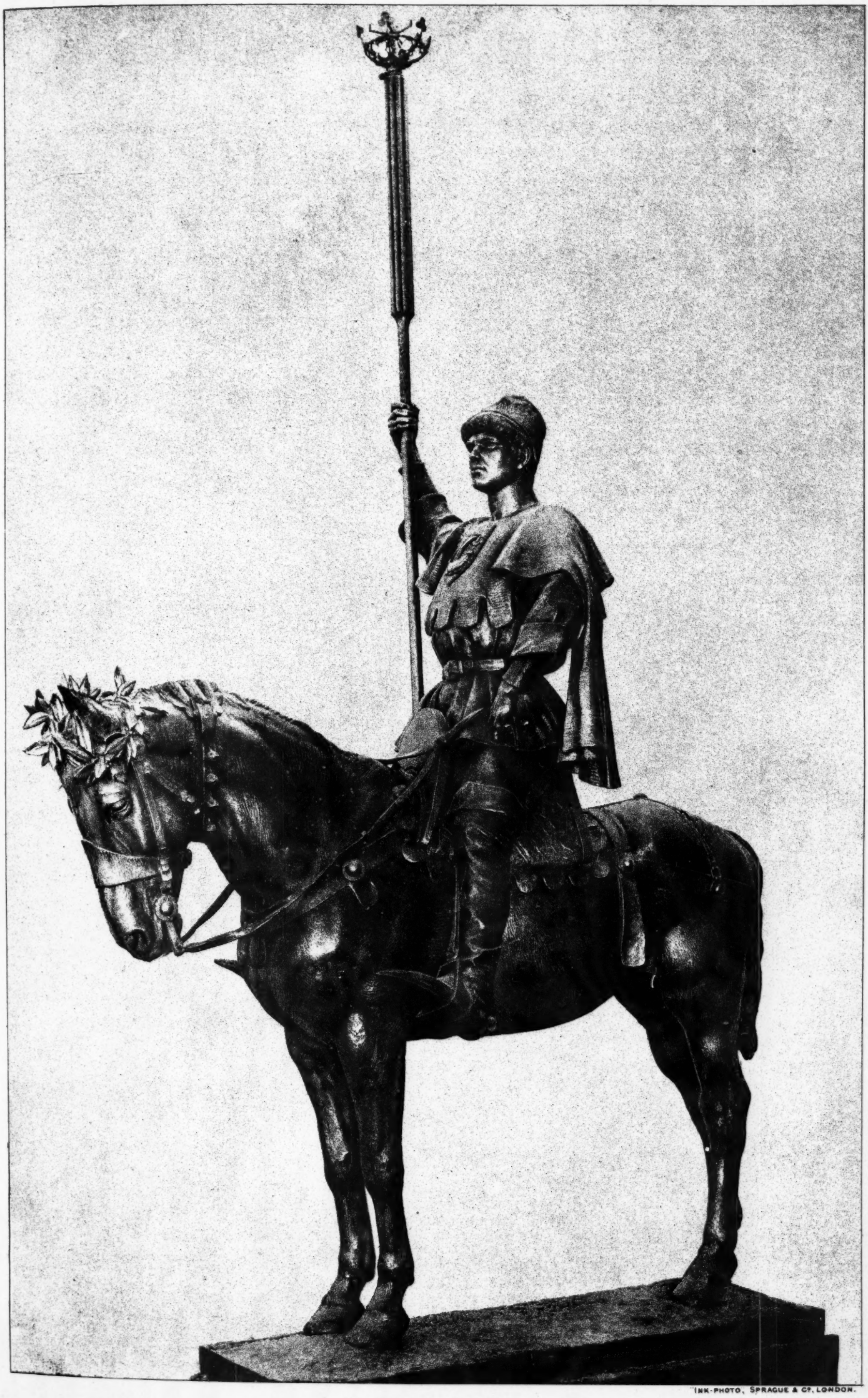


"INK. PHOTO." SPRAGUE & Cº, LONDON.

SCULPTURE AT THE ROYAL ACADEMY

"EDWARD I."

MR. HAMO THORNYCROFT, A.R.A., SCULPTOR



INK-PHOTO, SPRAGUE & Cº, LONDON.

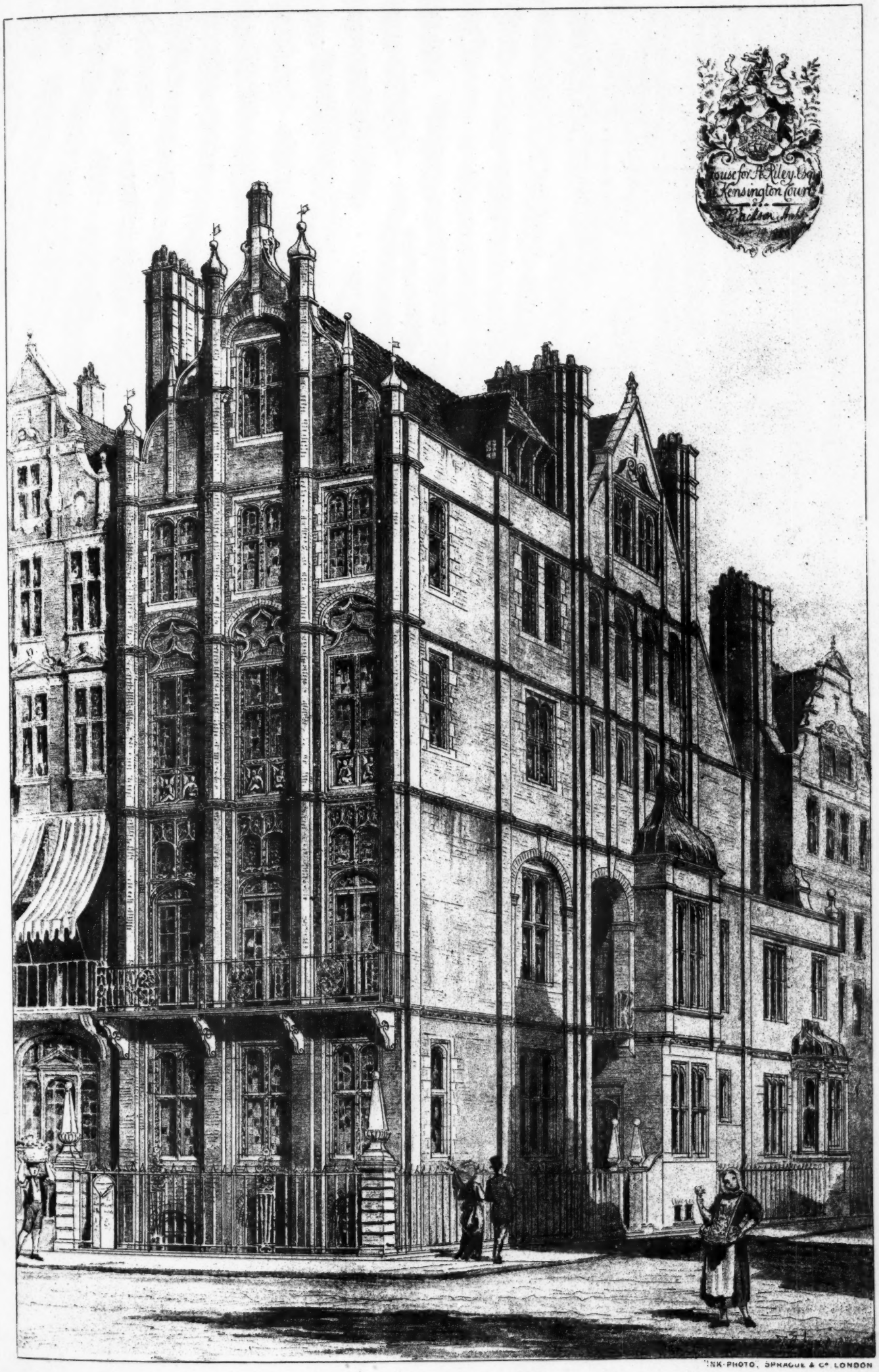
"HERAUT D'ARMES."

BRONZE CHANDELIER ON THE STAIRCASE OF THE HOTEL DE VILLE, PARIS.

M. FREMIET, SCULPTOR.

"EDWARD I."

MR. HAMO THORNYCROFT, A.R.A., SCULPTOR

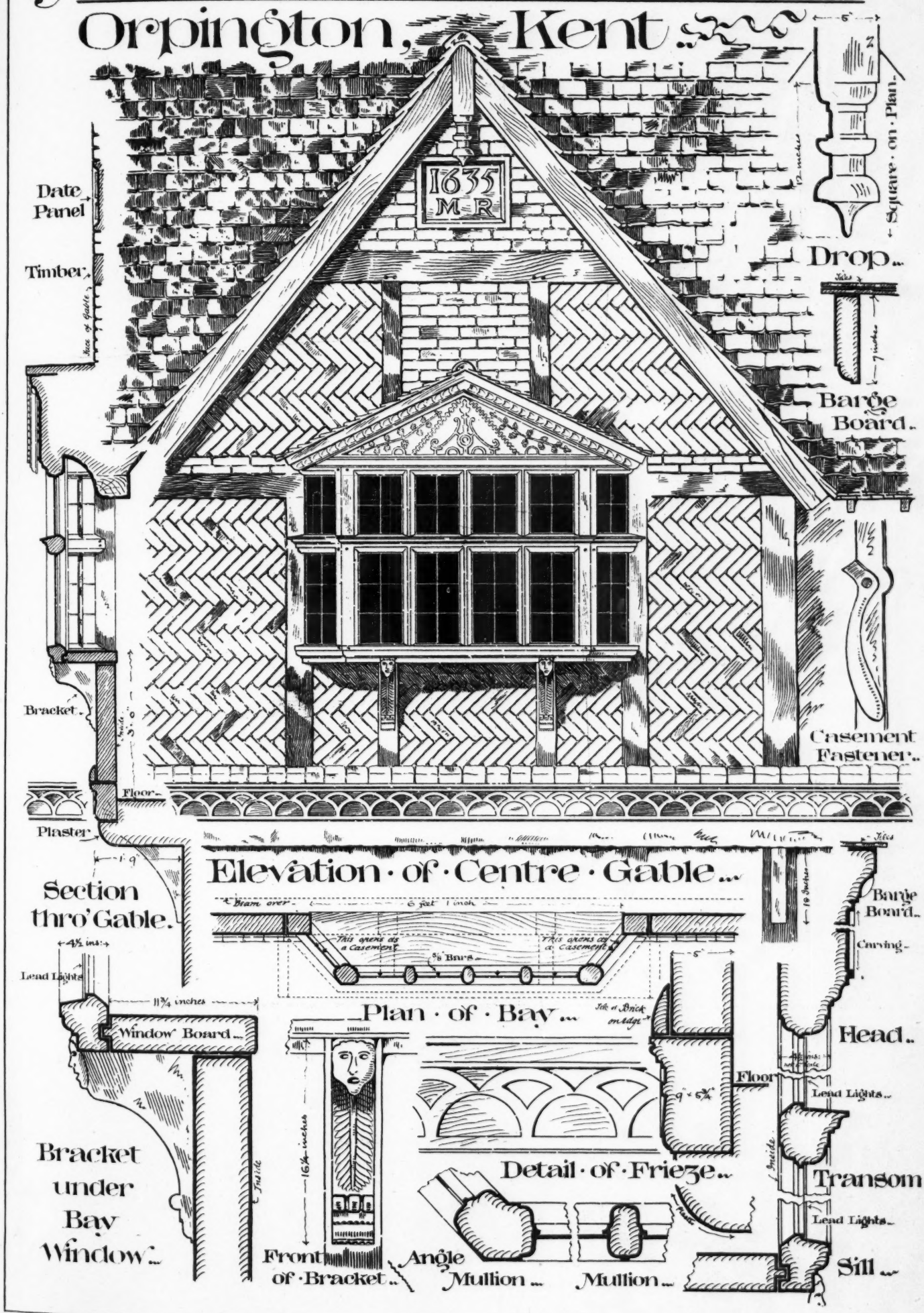


INK-PHOTO, SPRAGUE & Co LONDON

HOUSE, KENSINGTON COURT

Mr T G Jackson, Architect

A Gable of an Old House at Orpington, Kent



Wyman & Sons, Photo-Litho, 6 Queen St London.

Drawn by MR. LIONEL LITTLEWOOD.

Mr. R. Martin Smith the treasurer; Capt. Blount, R.N., is the secretary.

The building now accommodates sixty in-patients, located in the old building originally occupying the site, and which has been judiciously altered to the purposes of a hospital. It is, however, intended, as soon as funds will permit, to add an additional wing, constructed upon more modern principles.

The out-patients are at present accommodated in the basement of the old building, and the arrangements are necessarily of a primitive and unsatisfactory character. The accommodation for the nursing staff is also very inconvenient, as part of it has to be located in premises situated on the opposite side of the Queen's-road. Hence the necessity for erecting the new building.

The architects of the new building are Messrs. H. Saxon Snell & Son, and the arrangements are such that the ground-floor is devoted to the purposes of an out-patients' department, and contains a waiting-hall, 53 ft. by 20 ft. and 16 ft. in height. Ranged down one side are the surgeons' and physicians' rooms, a dressing-room, and a small ward for the temporary accommodation of patients after having undergone operations. At one end is a dispensary with a separate small waiting-room for nurses coming for medicines from the main building. This department is entered by a gate from Tite-street, and the courtyard giving access to it has a low shed ranged down one side for the shelter of children's perambulators.

The upper part of the building is entirely detached from all communication with the out-patients' department upon the ground-floor. It consists of three floors, containing twenty-nine bedrooms for the nursing staff and Sisters, and in addition a sitting-room and bedroom for a superintendent. Two sitting-rooms are also provided, the one for nurses and the other for lady probationers. The basement of the building contains the porter's apartments, a mortuary, post-mortem room, a drug-store, and cellarage.

The entire cost of the structure will be 6,550*l*., but with the funds at present in hand it will only be possible to complete the out-patients' department and the carcassing of the upper portion of the building.

The builder is Mr. Chas. Wall.

A GABLE OF AN OLD HOUSE, ORPINGTON, KENT.

THIS quaint old Kentish gable is one of many which tells us how fond our forefathers were of the picturesque, and yet how true and honest they were in their art of building.

The old building from which this gable is taken has a pleasing outline. The roof is steep-pitched, tiled, and hipped at both ends, whilst this gable rises in the centre of the front. The lower story is half-timbered, filled in with horizontal coursed brickwork; the upper story projects 1 ft. 9 in. on wood brackets, and is filled in with herring-bone brickwork. The windows have lead lights, with casements opening outwards. The carving in the pediment of the window is in wood. The Jacobean door, with its carving, together with the latch, catch, handle, and quaint knocker, are well worthy of a special notice.

The Carpenters' and Joiners' Companies awarded the author of this drawing their silver medal and 5*l*. at Carpenters' Hall last year.

ARCHITECTURAL SOCIETIES.

Birmingham Architectural Association.—On Saturday afternoon last the members of this Association made an excursion to Alvechurch and Beoley churches. On arriving at Redditch the party walked a distance of about two miles to Beoley, where they were met by the Vicar, the Rev. C. J. Langston, who conducted them over the church, now being restored by Mr. E. Ray, architect, of Worcester. The church is an old stone building in the Norman and Early English styles, consisting of chancel, nave, aisles, a lady chapel, and tower, with six bells; in the lady chapel are many ancient monuments, most probably the work of Italian artists, to the Sheldon family, who formerly held this manor. The tomb to W. Sheldon and his wife, with recumbent effigies, is especially worthy of mention as being one of the finest and most elaborately-decorated examples of Elizabethan ornamental architecture in the country. After a pleasant ramble of about five miles through the fields, the party reached Alvechurch, where an inspection was made of the church restored by Mr. Butterfield.

Liverpool Architectural Society.—At a meeting of the Council of the Liverpool Architectural Society, held at the new rooms, Cook-street, on Friday, the 12th inst., Mr. Thomas Mercer was unanimously elected president for the coming session.

BUILDING ON PRIVATE AREAS.

MR. FREDK. JNO. JOHNSON, of the Sussex Arms, Loughborough Park, Brixton, was summoned at the Lambeth Police-court, before Mr. Chance, for that he did unlawfully, without the consent of the Metropolitan Board of Works, form or lay out a certain road, passage, or way, leading out of Acorn-place, Camberwell, for building, as a street, for purposes of foot traffic, in such a manner that such road, passage, or way would not afford direct communication between two streets, contrary to 45 Vic., cap. 14, sec. 7; and further, that he did unlawfully form or lay out the above way as a street for foot traffic without the consent of the said Board, contrary to sec. 8 of the above-mentioned Act.

Mr. Avory, instructed by Mr. Thos. Burton, appeared for the Metropolitan Board of Works, and Mr. Besley for the defendant.

Mr. Avory stated that the defendant had erected six blocks of artisans' dwellings in Acorn-place, Meeting-house-lane, Camberwell. The blocks fronted upon three sides of an open quadrangle, of an average width of 50 ft., and about 79 ft. deep from north to south, the quadrangle being enclosed at the northern end, next Acorn-place, with an ordinary railing, in which gates had been put up, the central gate being 8 ft. wide and capable of admitting a wagon. Side gates had also been made, 4 ft. wide each, and led into two footpaths. The centre portion of the quadrangle was paved with wood, and a footpath, 6 ft. 6 in., was made round three sides of the quadrangle. The blocks had each a frontage of 33 ft. upon the quadrangle, and were three stories in height, each block containing six sets of tenements of three rooms each, in all, thirty-six sets of tenements, capable of accommodating 144 to 200 persons. A caretaker resided on the premises; and at the south-west angle of the block was a gateway 10 ft. wide, leading to an open space at present used for storing building materials. In the rear of the blocks was a footway 4 ft. wide, with a doorway at the eastern end leading into High-street, Camberwell. The site of the buildings complained of was surrounded by property belonging to adjoining owners, and the only access was through Acorn-place. The buildings had been completed, and were partly occupied. The railing enclosing the quadrangle on the north side had been erected, and the gates, it was believed, were usually kept closed.

Mr. Avory called Mr. John Hebb, the Assistant Superintending Architect to the Board, and Mr. Henry Jarvis, District Surveyor, in support of the above facts.

Mr. Besley, for the defence, contended that the blocks of buildings being enclosed by gates, they were not within the provisions of the Act, and that the defendant had done nothing to form or lay out a road, passage, or way, and cited several cases in support of his contention, and called Mr. Grace, the freeholder.

Mr. Chance, the magistrate, stated he should hold that the buildings in question came within the Act, and required the consent of the Board, and fined the defendant the nominal penalty of 10s. and 2s. costs.

Notice of appeal was given.

ANCIENT LIGHTS.

SCOTT *v.* POPE.

THIS case recently came up in the High Court of Justice, Chancery Division, before Mr. Justice North.

The plaintiff was the owner of a building on the west side of Denton Yard, Newcastle-upon-Tyne, which was erected in 1872 on the site of old buildings, the windows of which had undoubtedly been ancient lights. In rebuilding, the plaintiff had advanced the east wall by 2 ft. or 3 ft. nearer to the defendant's building. No record had been kept of the windows in the old building, but, on arbitration, it had been ascertained that although none of them corresponded in their entirety with the new windows, yet some of them did occupy parts of the spaces of those windows. The defendant had pulled down his building, and was re-erecting it to a greater height, so as to interfere with the lights of the plaintiff, who sought an injunction to restrain the encroachment.

Mr. Rigby, Q.C., Mr. G. Bruce, Q.C., and Mr. Wm. Druce were for the plaintiff; and Mr. Wm. Barber, Q.C., and Mr. J. Chester for the defendant.

The point of law argued in the case was whether the plaintiff had not by altering the plane of his wall in 1872 abandoned his ancient lights.

His Lordship, after dealing with the facts of the case and the authorities, held that the defendant had not established that which alone could justify him, viz., a clear intention on the part of the plaintiff to abandon his ancient lights, so far as he had not himself closed them up. No conclusive evidence of such intention had been adduced, and the law maintained the right in respect of any substantial part which was preserved of an ancient window. There were cases which showed that the "retirement" of a wall when altering buildings did not take away the previously-existing rights in respect of that wall, and the same principle must apply to the "advancement" of a wall. Notwithstanding the alteration the plaintiff was entitled to an injunction.

Costs ordered to be paid by defendant.

CASE UNDER THE METROPOLITAN BUILDING ACTS.

WHAT IS A "PUBLIC BUILDING"?

JOSELYN *v.* MEESON.

THIS was an appeal (heard in the Queen's Bench Division, before Lord Coleridge and Mr. Justice Mathew) from the conviction of a builder for a breach of the provisions of the Metropolitan Building Acts of 1855 and 1878 and the by-laws of the Metropolitan Board, in building an ambulance station without depositing plans and sections with the District Surveyor for East Hackney. It appeared that notice was given, but without the plans and sections as required by the Acts and by-laws in respect of "public buildings," and the question was whether this ambulance station was a public building within the Acts such as to require the deposit of plans and sections along with the notice. The statutory definition of "public buildings" was "any church, hospital, or building for any other public purpose." The ambulance station was erected at Homerton by the appellant for the Metropolitan Asylums Board, under the superintendence of Messrs. A. & C. Harston, architects. It was not actually connected with any fever hospital, though it was near one, and it was intended for the use of all fever hospitals in the metropolis by way of stabling for horses, &c. The builder being summoned before the magistrate for a breach of the by-laws, it was contended that he was not liable, as this was not a public building. The magistrate, however, thought otherwise, and convicted the builder, but stated a case to raise the question, and it stated that the public were not admitted to it under any circumstances.*

Mr. Gye (instructed by Messrs. Rogers, Sons, & Russell, solicitors) appeared for the defendant, and argued that it was not a "public building" within the Act.

Mr. Meeson, the Surveyor of the Board, appeared in person, and submitted that it was a "public building."

The Court, however, were clear that it was not, and gave judgment for the appellant, with costs.

WHITEWASH.

SIR,—I trust that the unpretentious heading of this communication will not exclude it from your columns. It may be that in these days of scientific sanitation we dig deep and travel far for things of less value than those which lie upon the surface, and are close to our hand. The well-to-do and middle class may avail themselves of novelties, but we must look to the health of our poorer brethren, whom we have always with us, and who, in most instances, cannot help themselves.

Whitewash is a simple thing, but I believe that its application may be made an important aid to health amongst the masses thrust together and cooped up in our cities and towns. What we recommend for their use must be something very simple and very cheap, and my prescription meets both these requirements. Whitewash or limewash is so well known as to need no special description, but with your permission I will try to describe how to make it,—how to use it, and what benefits may be expected.

How to make it.—Get a lump or two of burned lime, slake it by pouring water upon it in a bucket or other vessel. It will fall away into powder, add more water, until it is of the proper thickness, stirring well all the time, and for about a penny you will have a bucket of limewash ready for use.

How to use it.—Clean down the wall, or other place to be washed, with a brush or broom, so as to remove all dirt, cobwebs, &c., and then lay on the whitewash, brushing it into every part, and giving it a good coat. By the time the first coat is finished, if it be a draughty day, the wall will be dry enough to begin a second coat, and this done, you will have a sweet, clean, white wall to look at instead of a dark, dirty, depressing blank.

* See *Builder*, Nov. 22, 1884, p. 709.

Anybody can do it, but if the work be done by men used to the job the cost will be about one-halfpenny per square yard. But what I want is to encourage the working man to do it himself. I strongly recommend the tenants of cottages, especially in crowded places, to have the walls of buildings and back premises done for the sake of the light, health, and cheerfulness which will be imparted, and owners of such property might greatly help where the poorest of the poor live. The difficulty with the labouring class is the whitewash brush,—the cost of a good one being 3s. 6d.,—rather a large investment for a working man for one article only rarely used. To meet this difficulty, and to encourage the work, when I was Town Surveyor at Burnley, about twenty-five years ago, I advised the Commissioners (now Corporation) to purchase whitewash brushes and lend them to poor people at a charge of one penny each, and the result was very gratifying. It was a sight on Saturday afternoon, or in the evening of spring and summer days, to see the working men and women turning out the loose odds and ends of their dwellings, and working with a will at their simple wall decoration of sweet limewash. Hundreds of dwellings in the poorer districts were cleansed,—dark and dreary blank walls were made bright and cheery,—light was reflected into dark dwellings, and an appearance of neatness and cleanliness imparted, where, but for the penny brush and the lump of lime, it would have been unknown. Wishing to know whether this loan system was being continued at Burnley, I recently inquired of the very active and intelligent Sanitary Inspector, Mr. C. Slater, and herewith append a summary of particulars supplied by him, and extending over twelve years past:—

The number of brushes lent by the Corporation has been			26,541
The cost of the brushes	£125	6	3
The sum received for loans	124	16	1
Value of brushes in stock	10	0	0

showing an actual profit over and above the cost of the brushes lent!

It will be seen that this loan system has been a great success, and Mr. Slater says that much good has been done and few brushes lost. As before remarked, the brush is the difficulty with the poorer class. Lend them a brush, and supply a pennyworth of lime, or tell them where to get it, and you will see with what earnestness they will set to work to lighten up many a darksome and cheerless outlook. 26,541 whitewash brushes set to work in and about the dwellings of the labouring class, and the first cost more than repaid by the loan pence, is an instance of practical sanitary work I think worth knowing, and worth imitating by any Corporation or other body, Urban or Rural, having charge of public health. We are under no special panic just now, nor need be as to approaching cholera, but certainly the utmost possible precautionary measures are imperative and urgent, and I know no more cheap and simple safeguard against epidemic or illness amongst the working class than a liberal use of limewash.

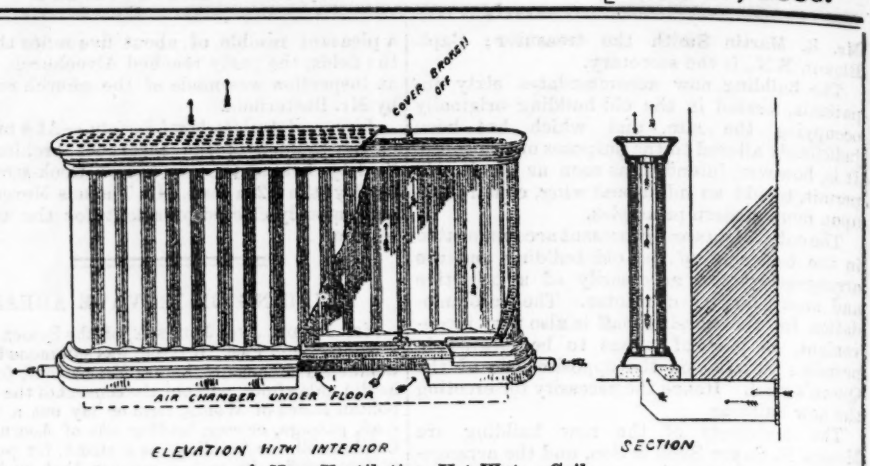
JOSEPH BRIERLEY, M.Inst.C.E.

PUMPS FOR CONTRACTORS' PURPOSES.

SIR,—In reply to "A. E." in your last issue [p. 884], who asks my opinion as to the best form of valves for direct-acting steam-pumps (printed pipes) for contractors' use, I conclude "A. E." refers to the steam and not the pump valves, and he has asked a question that has long been a matter of controversy amongst engineers, and something may be said in favour of each system. For the purpose "A. E." names, *i.e.*, tunnelling where the water is usually gritty and muddy, if he must use direct-acting pumps, I do not think he would do amiss in having them arranged with ordinary steam slide valves and the water passages made extra large.

M. POWIS BALE.

Impermeable Floors.—Medical men have long been preaching, and are now beginning to practise, the employment on sanitary grounds of flooring laid without interstices to catch the dirt, and with polished, or at least smooth, cleanly, and washable surfaces. Costliness has been hitherto a drawback to the adoption of such flooring. The solid 1-in. parquet floors of Bucher & Durrer (agents, Scheibler, Bros., & Co., 23, New Broad-street, E.C.) supply the needed element of relative cheapness.—*London Medical Record.*



A New Ventilating Hot-Water Coil.

NEW VENTILATING HOT-WATER COIL.

SIR,—The desirability of admitting warm fresh air into buildings for the purpose of ventilation has long been recognised. The methods usually adopted in the case of hot-water or steam coils are not always successful, even with and by the aid of deflecting plates, to say nothing of the cost of these extraneous fittings.

The coil here represented is made out of stout corrugated iron or steel, with waterway of 1 in. surrounding the air-chamber; the bottom and top boxes are of cast iron, and made suitable to receive the corrugated metal, with proper packing, afterwards bolted together.

The top is a loose cone, and perforated to admit the fresh warm air into the room.

It will be seen that the coil is simple in construction, and complete in itself. The effective heating surface is equal to a 20 2-in. pipe coil, 6 ft. long. It has been seen by one of the most eminent London architects, who pronounces the principle perfect, but suggests that the coils should be placed in window recesses,—with which, of course, I agree.

I may add that the body of the coil being made of wrought metal, the breaking from frost that so often attends the cast pipes will be avoided; and further, the *plan* of the coil may have any shape suited to the position it would best occupy.

ROBT. CRANE.

"ITALIAN SILVER-GREY SLATES."

SIR,—We have only now seen, in your issue of the 13th [p. 850], a letter on the above subject from Messrs. E. & C. Braby, and in reply have much pleasure in informing them and others who may be interested in the matter that it is from quite a different and vastly superior rock that the slates for the English market are now procured, because that of which he complains was found to be unsuited for the purpose. The present quarries are altogether in another district, now rendered more accessible owing to the making of a new road and erection of a wire-rope tramway, thereby cheapening the cost of the slates very considerably.

As a proof of their durability we have only to mention the celebrated Church of Carignano at Genoa, which stands high and is very exposed; it was covered in about 1810 with these slates, and the roof has never been repaired; also the Church of San Fruttuoso, the burial-place of the Dorias, which is open to very severe gales, is roofed with the same slates, which have been on more than a century.

We could bring forward many more proofs of their marked superiority since the time to which Messrs. E. & C. Braby allude, and we feel certain that a trial made of them now "would result in something far better and more useful."

With regard to the change of colour it has come to our notice that houses in England roofed with them had quite an immunity from the heat of last summer, of which their neighbours were complaining, these slates being non-conductors of heat.

BUBB & Co.

Sta. Margherita, Ligure, Italy, June 17.

PROVINCIAL NEWS.

Bristol.—The new tobacco factories just completed in Redcliff-street for Messrs. Edwards, Ringer, & Co., constitute one of the largest blocks erected in the city of late. The building has been constructed from designs furnished by the late Mr. J. H. Hirst, architect, Bristol, and it has been carried out with but very slight alterations from the original plan, under the joint supervision of the son of the original designer, Mr. H. C. M. Hirst, and Mr. H. Crisp, architects. The front elevation was designed, chiefly, by Mr. H. C. M. Hirst, from ideas suggested by his late father. The treatment is Italian throughout. This frontage in Redcliff-street consists of shops, with all necessary store-rooms. The central entrance to the works is picturesque, and is of an unusual width. The whole building is as nearly as possible a square of about 130 ft. The front part is of Mansfield stone and granite plinths, and the carving is by Mr. J. Steele, of 13, Kingsdown-parade. The manufactory is built of white, red, and blue Cattybrook bricks. The whole of the flooring is fireproof, and was laid by Messrs. Dennett & Ingle, Whitehall, London, who also provided the ironwork for the central hall and roofing. The iron staircases and galleries near the entrance-gates are by Messrs. Macfarlane, of Glasgow. The factory will be heated throughout by the steam apparatus supplied by Mr. Hodges, Temple-street, Bristol. The general contractors were Messrs. Stephens & Bastow. Mr. George Salmon was clerk of the works. The plumbing and gasfitting were entrusted to Messrs. Jones & Hudson, Redcliff-street, who carried out the work most satisfactorily. Mr. C. H. James, C.E., will superintend the arrangement of the new machinery.

Liverpool.—The Edgehill Tunnel, Liverpool, which will be well remembered by travellers to and from the Lime-street Station, has been abolished. The *Liverpool Courier* says that when the tunnel was first opened, and for a long period afterwards, the trains used to be hauled up a wire rope attached to the stationary engine situated at the head of the tunnel at Edgehill. The process of hauling up the trains by the fixed engine and rope was found not at all adapted to the rapidly-increasing traffic at Lime-street. Then it was determined to attach engines to the trains going up and down the tunnel. This certainly increased the speed of the journey, but not its pleasantness. The smoke and steam emitted from the many engines going up and down the tunnel lodged there, although all the improved means of ventilation and dispersion were tried. An atmosphere of a very noxious character accumulated, which, along with the darkness that prevailed, made the journey through Lime-street tunnel a disagreeable experience to many railway travellers. The noiseme atmosphere was to some extent purified by the stupendous ventilating-shaft erected in the middle, and equipped with fan extractors of gigantic power. But all these expedients,—costly and laborious,—were unsatisfactory, and in the end the company decided upon the radical cure of taking the roof off the tunnel bodily, and converting it into a wide open cutting. This was a task of great difficulty and cost. When the tunnel was first made, the land above, between Lime-street and Edgehill, was but little built upon; of late years it has been covered by houses. All these had to be acquired, and the cost of opening up the great tunnel has entailed upon the railway company a large expenditure of money. Now, however, the work is accomplished. With the exception of a bridge across it in Trowbridge-street, the tunnel is opened now all the distance from Lime-street to Edgehill. Two additional lines of rails and sidings have been laid down, and other improvements facilitating the traffic have been effected, so that four lines of rails now exist where before there were only two.

West Hartlepool. — The West Hartlepool Commissioners have decided, on the recommendation of a special committee, to erect new offices for themselves and for the Board of Guardians.

Preston.—On the 18th proximo the Prince of Wales is to visit Preston, and, proceeding to

the works for improving the navigation of the River Ribble, he will lay the foundation-stone of a 40-acre dock, probably with the Masonic ceremony. The Ribble Improvement and Dock Works are being carried out on a slight modification of Sir John Coode's scheme by Mr. T. A. Walker, of Westminster, to whom the contract was let in September last for 456,600*l*. The borrowing powers of the Corporation for these works amount to 650,000*l*., but the general opinion now is that they will cost nearly 1,000,000*l*. The contract includes the diversion of the river, the construction of a tidal basin of 4¾ acres, and a dock of 40 acres, with the necessary adjuncts of locks, lock-gates, &c. The diversion of the river will be from near Penwortham Bridge to the Chain Caul, a distance of about three-quarters of a mile, and it will skirt the wooded eminence on which stands the ancient church of Penwortham. There are now daily employed in the excavations on both sides of the river upwards of 1,000 men, and during the work many remains of extinct animals have been brought to light.

CHURCH-BUILDING NEWS.

Halifax.—The Church of St. Anne in the Grove, which has been remodelled from the designs of Mr. W. Swinden Barber, has recently been re-opened. The greater part of the interior fittings, including the brass lectern and black wrought-iron gasfittings, were supplied by Messrs. Jones & Willis, of Birmingham and London.

Stanford-in-the-Vale (*Berks*). — The north aisle and porch of St. Mary's Church, in this parish, having become very dilapidated, are now being restored under the supervision of Mr. F. H. Barfield, F.S.I., architect and surveyor, of Faringdon, Berks, Messrs. Cadel & Son, of that town, being the contractors. The new roofs are of oak, with the timbers and boarding exposed, the aisle being covered with new lead, and the porch with stone slates.

Manchester.—On Monday, the 15th instant, the church of St. Agnes, Birch-in-Rusholme, was consecrated, the foundation-stone having been laid by the Bishop of Manchester on the 19th of July, 1884. The church will comfortably seat 502 adults. It is built of brick, inside and out, the design having been carefully worked out in detail to suit the material. The roofs are covered with Ruabon tiles, with slight patterns of darker tiles. The chancel terminates to the east in a semi-hexagonal apse. The reredos is mainly of cream-coloured stone with moulded cornice, surmounted by a plain Latin cross. The communion-table is raised seven steps above the nave, and, the nave floor sloping up about a yard towards the east, a very dignified elevation is obtained without an undue number of steps. The font, a bowl of cream-coloured stones with carved cornice, is supported by columns of Devonshire marble with carved caps. Various appropriate inscriptions are introduced in the floor tiling of the chancel, the entrance-porch, the vestries, and other parts of the church. The doors and chancel fittings are of oak; the nave seats of pitch-pine. The windows are glazed with good glass in carefully-designed patterns. It deserves to be noted that this church, containing as it does a great deal of carefully worked-out detail, has been consecrated within a year from the date of the contract for the shell, or for the church without the fittings. It is built on the estate of Sir W. R. Anson, who has given the site. The various details have been worked out minutely by Mr. Medland Taylor, the architect, who has personally superintended the erection of the church.

SCHOOL-BUILDING NEWS.

Walthamstow. — Mrs. Gladstone, who was accompanied by the Honourable Mrs. Courtney Warner, on the 20th ult. laid the foundation-stone of the St. Michael and All Angels' Sunday Schools, Walthamstow. The building is from the designs of Mr. J. M. Bignell, architect, Clapham, the builder being Mr. S. J. Scott, of London-wall and Walthamstow.

Egloshayle. — The memorial-stone of new Sunday schools in connexion with the parish church of Egloshayle, near Wadebridge, has just been laid. The schools are intended partly as a memorial to the late Canon Shuttleworth, who was for thirty-four years vicar of the parish. They will consist of a plainly-built edifice. The material employed will be local stone from Grogley Quarry, fitted with dressings of buff bricks (from Messrs. Condy & Co., of Chudleigh), and granite. The windows will be fitted with pointed arches. The contractors are Messrs. J. Paul (masonry) and J. Goodfellow (carpentry), both of Wadebridge. Mr. W. J. Jenkins, of Bodmin, is the architect. The memorial-stone, which faces the church, consists of a block of granite measuring 3 ft. 6 in. by 2 ft. 4 in., and was cut by Messrs. Doney & Evans, of Bodmin. The cost of the school will be upwards of 400*l*., including the cost of the site and transfer.

Moulsham.—Extensive alterations and additions are about to be made at the Moulsham National Schools. The infants and boys' schoolrooms are to be knocked into one, and the boys' and girls' classrooms are also to be united. A new infants' schoolroom is to be built to the north of the present one, with which it will be connected by an open porch. The new room is to accommodate 180 children. Mr. C. Pertwee is the architect, and Messrs. Crompton & Fawkes are the builders, the amount of their contract being 864*l*.

Birmingham.—On the 30th ult. Mr. H. G. Reid laid the foundation-stone of a new school and lecture-hall attached to the Congregational Church, Westminster-road, Birchfield, Birmingham. The new school is to be erected by Mr. W. Bennett, of Berners-street, Lozells, from plans by Messrs. Ingall & Hughes, of Temple-row West, Birmingham. It will accommodate 400 scholars, or 350 persons when it is used as a lecture-hall. It will cost about 1,200*l*.

Eccleshill.—A new Wesleyan Sunday School is being built here, from designs by Mr. F. S. Smith, architect, Yeadon. The building will cost 1,600*l*. or 1,700*l*. The contracts have been let to Messrs. Baxter & Whitfield, masons; Mr. John Thomas (Idle), joiner; Mr. Thomas Norton, plumber; Mr. E. Walker (Idle), painter; and Mr. Jos. Thornton, slater.

Darlington.—The memorial stone of the Central Board Schools, Darlington, has been laid. These schools are intended to replace the Bank Top Schools,—the site of which is required by the North-Eastern Railway Company for the station extension, — the Skinnergate, and the Bridge-street Board schools, and will accommodate about 1,000 children. The schools are divided into three departments,—senior, junior, and infants,—with hat and cloak-rooms, playgrounds, and covered play-sheds for each department. Teachers' rooms are arranged conveniently to the playgrounds, so that supervision can be had over the children during play hours. The main entrances to each school are from Beamont-street, separate entrances being provided in each case for boys, girls, and infants. The buildings are being erected with hand-made common bricks for the general walling, relieved by red pressed brick, string courses, pilasters, and arches, supplied by Mr. J. C. Edwards, of Ruabon. They are being carried out from the plans, chosen in competition, of Mr. F. W. Brooks, architect, at a cost of about 5,000*l*. The contractors for the different works are Mr. George Marshall, brickwork, slating, &c.; Mr. John Hewitt, carpenters' and joiners' work; and Mr. Emerson Smith, plumbing. The clerk of the works is Mr. T. W. Robson.

Ipswich.—On the 13th inst. the Rose Hill school for infants, just erected by the Ipswich School Board, was opened. The buildings, which are in the Tudor style, provide accommodation for 184 infants. The material used for the exterior is red brick, with Broseley tile roofs. The desks are very strong and well made, and are adapted to the Kindergarten system. They were supplied by Mr. Hawes, of Norwich. The contract was taken by Mr. R. S. Smith, builder and contractor, of Ipswich, for 1,393*l*., and this amount has only been exceeded by a trifling sum. The whole of the work has been executed from the designs and under the supervision of Mr. E. F. Bisshopp, architect and diocesan surveyor, Ipswich.

Meanwood Institute, near Leeds.—The committee of the Meanwood Institute, of whom the Rev. Annesley Powys, Vicar of Holy Trinity, is the chairman, having decided to increase the accommodation by the erection of a Public Hall, &c., plans were invited in limited competition, and the designs of Mr. T. Butler Wilson, of Leeds, were selected.

ROMAN CATHOLIC CHURCH-BUILDING NEWS.

Manchester.—On the 31st ult. special services were held at the Church of the Holy Name, Oxford-street, Manchester, to celebrate the opening of the Sacred Heart Chapel, situate to the east of the high altar. The chapel contains an altar, the panel forming the front of which contains a sculptured group of the Agony in the Garden. The angle shafts of the altar are of serpentine. The super altar is richly diapered, and in the centre is to be a tabernacle, with door of *repoussé* work, and the emblem of the Sacred Heart, encircled with the crown of thorns, and surrounded with jewels. The reredos has a lancet-shaped arch in the middle, with a standing figure of our Lord displaying His sacred heart. The altar and reredos are flanked by tall niches, in which are placed statues of St. John and St. Bernard, with sculptured pedestals, marble shafts, canopies and arcade of Painswick stone, with richly-carved diapers, foliated spandrels, and cresting of vine leaves. The whole is surmounted by a rose-window filled with painted glass. The work is in the style of the thirteenth-century, from the designs of Mr. Charles A. Buckler, of Hereford-square, London, architect. The masonry and sculpture are by Mr. Boulton, of Cheltenham; the tabernacle by Messrs. Hart, Peard, & Co., London; and the glass by Mr. Pearce, of Chelsea.

Liverpool.—On Sunday evening, June 21st, the Catholic bishop of Liverpool laid the foundation-stone of a magnificent chapel, to be built on to St. Francis Xavier's Church, and the initial cost of which will be 6,000*l*. The entrance to the new chapel is obtained out of the side aisle by means of a new archway formed in the space now occupied by the two aisle windows nearest the chancel. The arch opens into an octagonal-shaped chapel, in the walls of which are six arched openings, the principal one leading into the chapel chancel, around which are chancel-aisles, leading from church to house. The end of the chapel which is nearest the present belfry is planned for a small chapel, also with aisles, and called the Bona Mors chapel. The small chapel, like the chancel, is connected with the octagon by arched openings. Internally the whole of the materials will be Bath stone and marble, in large and smaller columns. The exterior will harmonise with the style of the church, and give the idea of a Lady or Sainte chapel. The builders are Messrs. Brown & Backhouse; the contractors for the marble-work, Messrs. John Stubbs & Son; and the architect is Mr. Edmund Kirby.

RECENT PATENTS.

ABSTRACTS OF SPECIFICATIONS.

1,322, Sliding Windows or Sashes. F. Oldfield.

A vertical screw fixed in a groove on one side of each sash works in a nut wheel attached to the frame. The wheel gears with a skew wheel operated upon by a handle. Spur-wheels keyed on shafts attached above the top sash and underneath the bottom sash gear, with racks fixed to the frame insure uniform motion in the sashes.

2,413, Roofs. D. Griffiths.

This roof is nearly flat, and is supported by wooden beams, the under-side of which are straight, and are utilised as ceiling joists. The beams may rest upon the internal as well as the outer walls, and may be strengthened in several ways described by the patentee. The roof is covered with tiles rebated and grooved round the edges to suit various modes of jointing, all of which avoid having the tiles anywhere doubled. Special ridge hip-and-gutter tiles necessitated by the flatness of the roof, are also described.

3,254, Astragals, or Glazing Bars. W. R. Lester.

The glazing-bar consists of an inverted bar of T-section, on the lower part of which a sheath of thin metal forming a trough is applied, and upon which the glass rests. The glass is retained in its place by strips of lead bent over it, the strips being also bent, so that they are held by the sheath. The upper ends of the glazing-bars are entered into a groove in the top cross-bar, and the bottom ends are secured by means of brackets. The flanges of the T-bars may be bent upwards by being drawn through dies. Similar means are employed to put on the metal sheath and the leaden stripes.

3,873. Concrete-mixing Machine. J. Powell.

Boxes for apportioning materials, hopper, and mixer. The boxes are of rectangular transverse section, with adjustable hinged doors or slides, and are secured to forks resting on wheeled supports,

giving longitudinal and transverse motion. The hopper is of the form of an inverted frustrum of a pyramid divided by two bevelled sides forming a midfeather over a suspended midfeather below, and has adjustable hinged doors workable from the platform. The materials are accurately gauged by boxes until exact working gauge of compartments is determined. The mixer is of rectangular transverse section, with hopper mouth, and reduced proportionately to allow for decreasing bulk of materials. It is rotated by a transverse axle, secured near its upper end and actuated by a lever and chain, and contains ploughshare blades and diagonal perforated piping for water. It has a hinged door, with turned-up sides at the discharging end, and a board forming part of its upper longitudinal side, movable for cleaning and inspection.

4,671. Moulds for Baths, &c.

In forming moulds for casting baths, cisterns, and similar articles, each half is rammed up from a separate pattern, a flange on the pattern forming a parting surface in each case, and determining the thickness of the metal.

4,698. Artificial Fuel. W. H. Spence.

Coke dust or residue of unburned fuel is mixed with small coal and tar, diluted with a little petroleum, and then an alkaline solution added, such as sodic carbonate. The plastic mass is then formed into cakes.

13,422. Tube-stopper. F. Botting.

Two conical discs are connected by a bolt and hand-screw, and enclosed between them is an india-rubber or other elastic ring. By screwing up a nut the joint is made tight. The invention is applicable to openings of all kinds, including manholes.

APPLICATIONS FOR LETTERS PATENT.

June 12.—7,177, P. Whelan, Improvements in Water Heaters or Geysers.—7,189, W. Joy, Manufacture of Cement and Apparatus for same.—7,191, J. A. & A. A. Clarke, Construction of Box Flues and False Backs for Fire Grates.

June 13.—7,203, C. Twigg, Manufacture of Pulley Frames and Pulley Wheels for Chandeliers, &c.—7,204, G. Kinnaird and Others, Improvements in Cooking Ranges.—7,207, W. Smith, Levers for Striking Bolts of Locks and Latches.—7,209, C. Powell, Adjusting or Attaching Door Knobs or Handles to their Spindles.—7,239, H. Allan, Device for Securing Rainwater and other Pipes.

June 15.—7,250, J. Broadhurst, Improved Pottery Kiln or Oven.—7,252, J. Anderson, General Cabinet-maker and Automatic Dovetailing Machine.—7,254, A. Littleford, Fastenings for French and other Windows and Doors.—7,264, H. Le Bas, Sanitary Closet.

June 16.—7,289, H. Fourness, Gaslighting Apparatus.—7,291, J. Webster and H. Hudson, Improvements in Stove Grates.—7,303, J. Allen, Feed Motion for Racket Braces and Drills.—7,306, J. Macmeikan, Ventilators and Wind Guards.—7,311, G. Garrard, Improvements in Tile Presses.—7,327, A. Hudson, Automatic Fire Alarm and Heat Indicator.—7,330, R. Hunter and J. Turnbull, Kitchen Ranges.—7,339, H. Snelgrove, Fireproof Ceilings and Floors.—7,348, W. Riches, Improvements in Hinges.

June 17.—7,362, W. Parnall, Improvements in Shop Counters.—7,373, W. Wynne, Electric Vibrating Bells.—7,382, A. Reed, Decorating Wall Hangings, &c.—7,391, W. Ollis, Water-waste Preventing Cisterns.—7,394, J. Johnson, Safety and Unpickable Lock or Fastening.

June 18.—7,409, J. Brooke, Oval or Elliptical Soldering Machine.—7,410, J. Morley, Waste-preventing Ball Valve and Lever for use in Flushing Cisterns.—7,430, R. Rae, Syphon Tap for Water Closets, Sinks, Lavatory Basins, &c.—7,434, W. Brewer, Devices for Fastening Windows, &c.—7,447, H. Hatfield, Step Ladders for Domestic, Fire-escape, and other purposes.—7,452, C. Ellison, Tool for Turning Segments of Spheres.—7,456, C. Bailey, Fixing Closet Pans to Trap and Supply Pipe.

PROVISIONAL SPECIFICATIONS ACCEPTED.

3,823, J. Baber, Apparatus for Printing Dados on Walls, Ceilings, &c.—5,284, R. Harrington, Knobs for Doors, Cupboards, &c.—5,375, W. Trubshaw, Lock Furniture and its Connexions.—5,993, A. Ford and J. Archer, Waterproof Covering for Roofs, &c.—6,378, H. Buchan, Improvements in Water closets.—6,624, B. Mills, Safety Locks.—6,682 and 6,683, P. Davis, Fire Plugs and Boxes for Water Mains or Services.—6,704, E. Beech and T. Wrigley, Construction of Shutters or Guards for Shop Windows, Doors, &c.—6,705, H. and W. Schooling, Joints for Metallic Window and other Frames.—6,748, V. Schneider, Controlling Apparatus for Preventing Waste of Water.—6,769, J. Gilmore and W. Clark, Improved Pipe Union or Joint.—1,999, F. Carruthers, Apparatus for Fastening and Locking Doors, Gates, &c.—6,012, R. Stoffert and T. Dykes, Construction of Girders.—6,327, D. Rogers & Son, Fire-grates for Domestic Purposes.—6,424, E. Harling, Wind and Weather Indicators or Weathercocks.—6,629, H. Lake, Disinfecting Apparatus.—6,653, T. Bradford, Improved Disinfecting Apparatus.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to opposition for two months.

9,091, H. Johns, Improvements in the Production of Wall-paper, Paper Boards, Slates, Tiles, &c.—11,931, W. Morrison, Improvements in Chimney Tops.—12,144, C. Hinksman, Apparatus for Removing Paint from Woodwork, and for Use in Soldering, &c.—14,125, G. Davies, Ventilating Grease Traps for House Sinks, &c.—1,626, R. Evered, Flushing Cisterns.—3,653, B. Saunders, J. Woolven, and W. Eade, Smoke-consuming Stoves and Ranges.—5,570, G. Budd, Apparatus for Ornamental Turning and Shaping.—6,003, O. Imray, Improvements in Rock Drills.—11,237, L. Groth, Improved Warming Stove.—11,660, H. Lake, Composition for Covering Wood or other Surfaces.—11,700, C. Abel, Apparatus for Regulating the Draught in Stoves or Fireplaces.—11,918, G. Smart, Improvements in Pliers.—11,930, J. Connor, Improved Black Pigment.—3,661, A. Stephens, Apparatus for Supplying Water to Water-closets, Urinals, &c.—6,115, M. Schneider, Improvements in Firestoves and Grates.—6,129, J. House, Automatic Fire-extinguishers.

RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

JUNE 15.

By HAMPTON & SONS.

Ellesmere, Shropshire—The freehold house, "St. John's Hill," and 3 acres	£1,500

By E. E. CROUCHER & Co.

Wood Green—11, Mayes-terrace, 95 years, no ground-rent	200
Palace Gates-road—"Salcombe," 95 years, ground-rent 7*l.* 7s.	450
Harrow—Canning Town—Two freehold houses	315

By EDWIN SMITH & Co.

Acton—1 to 4, The Parade, 94 years, ground-rent 40*l.*	3,200

By MURRELL & SCOBELL.

Pentonville—31, North-street, freehold	685
36, 37, and 38, Collier-street, freehold	1,010
Hackney-road—66 to 76, even, Brunswick-street, freehold	2,040
Clare Market—4, Clement's Inn Passage, freehold	720
St. Luke's—20 and 22, Central-street, freehold	460
Islington Green—Nos. 12 and 17, copyhold	2,200
Regent's Park—61, York-terrace, 36 years, ground-rent 21*l.*	715
Clerkenwell—26, Sekforde-street, 6 years, ground-rent 5*l.*	50
Brunswick-square—26, Compton-place, 22 years, no ground-rent	125
Improved ground-rents, 40*l.* a year, term 22 years	440
Islington—Lonsdale-square, improved ground-rents, 47*l.*, term 24 years	590
Dalston—Improved ground-rents, 35*l.*, term 30 years	530

JUNE 16.

By FAREBROTHER, ELLIS, CLARK, & Co.

City—124 and 125, Minories, and 2 and 3, Vine-street, Corporation Lease	3,450

By Messrs. CRONK.

Near Sevenoaks—Deane Fields, 12a. 3r. 26p., freehold	1,080

By ROGERS, CHAPMAN, & THOMAS.

Warwick-square—130, Cambridge-street, 45 years, ground-rent 9*l.*	860

By PROCKTER & FRASER.

Old Ford-road—No. 428, 22 years, ground-rent 5*l.*	100
Stepney—141, Redman's-road, copyhold	290
Islington—Brooksby-street, improved rental, 41*l.* 11s., 24 years	630

JUNE 17.

By FULLER, HORSEY, SONS, & CASSELL.

Clapham Common—"The Shrubbery," and 5a. 3r. 12p., freehold	20,000

By THURGOOD & MARTIN.

Morden—The Brickfields, with plant, 10 cottages, and 28 acres, freehold	2,150

By E. F. TAYLOR.

Barnet—The freehold house, "Hayesleigh," freehold	1,275

By WALFORD & WILSHIN.

Anerley—4, Anerley-villas, 36 years, ground-rent 15*l.*	560

By HARMAN & MATTHEWS.

Homerton—Ground-rents of 59*l.* 10s., reversion in 73 years	1,340
Freehold ground-rents, 29*l.* 7s. a year	695
Freehold ground-rents, 59*l.* 13s. a year	1,370
Old Ford—Freehold ground-rents, 16*l.* 16s. a year, reversion in 77 years	415
Forest Gate—Freehold ground-rents, 50*l.* a year, reversion in 56 years	1,160
Tottenham—Freehold ground-rents, 147*l.* 10s., reversion in 77 years	3,425
Page Green—Freehold ground-rents, 41*l.*, reversion in 73 years	870
Stamford Hill—Freehold ground-rents, 25*l.*, reversion in 76 years	500
Forest Hill—High-street, the Derby Villas Nursery Ground, freehold	650
Freehold ground-rent of 36*l.* 15s., reversion in 71 years	1,055
Freehold ground-rent of 11*l.*, reversion in 73 years	285

JUNE 17.

By TABERNACLE & SON.

Bond-street—4, Union-street, Corporation Lease	1,200
City-road—25, Duncan-terrace, 41 years, ground-rent 11*l.*	710
Penge—1 to 6, Lowden-terrace, 88 years, ground-rent 32*l.*	1,350
Forest Hill—Improved ground-rent of 23*l.* 10s., term 270 years	370
Improved ground-rent of 14*l.* 10s., term 67 years	215

JUNE 18.

By BALL, NORRIS, & HADLEY.

Dockhead—18, Hickman's Folly, freehold	445

By BAXTER, PAYNE, & LEPPER.

St. Mary Cray—1 to 5, the Lower-road, freehold	600
Orpington—1 and 2, Moorhurst-villas, freehold	1,050

By NEWBON & HARDING.

Barnsbury—18, Richmond-road, 56 years, ground-rent 8*l.*	450
Highbury—16 to 19, Park-place 49 years, ground-rent 30*l.*	770
New North-road—62, Arlington-street, 51 years, ground-rent 5*l.* 10s.	525

By H. J. BLISS & SON.

Bethnal Green—3, Winchester-street, freehold	£165
Forest Gate—2 to 12, even, Chestnut-villas, and 37 to 39, Chestnut-avenue, freehold	3,500
Clapham—38, Trigon-road, 40 years, ground-rent 4*l.*	280
17, Portland-place, 35 years, ground-rent 2*l.*	280
Paddington—36, Woodchester-street, 67 years, ground-rent 5*l.*	360
Bethnal Green—2 to 5, Surat-place, freehold	480
North Bow—61, Eglinton-road, freehold	405
Hackney-road—74 and 76, Warner-place, 19 years, ground-rent 3*l.*	375

By HARMAN & MATTHEWS.

Wanstead—"The Grove," and 46a. 1r. 19p., freehold	15,600
Freehold ground-rents, 84*l.*, reversion in 76 years	2,185
Grove-road, 3 plots of freehold land	1,450
1, 11, and 15, Grove-road, freehold	2,840
Ground-rents, 32*l.* a year, reversion in 76 years	775
A plot of freehold land in Grove-road	575
Ground-rent of 15*l.*, reversion in 76 years	320

JUNE 19.

By W. B. HALLETT.

Piccadilly—The lease and goodwill, &c., of 31, Albemarle-street	2,525

By BAKER & SONS.

Victoria Park—Gainsborough-road, a plot of freehold land, 3a. 2r. 25p.	2,000
Sunbury—A plot of land, 4a. 2r. 11p., term 78 years, no ground-rent	210

By F. LEWIS & Co.

Haverstock Hill—2, Park-road, 52 years, ground-rent 16*l.*	3,550
1, 2, and 5, Prevost-road, 63 years, ground-rent 15*l.*	1,135
13 and 14, Prevost-road, 55 years, ground-rent 14*l.*	1,155

By RUSHWORTH & STEVENS.

Oxford-street—No. 484, term 44 years, ground-rent 10*l.*	4,450
St. John's Wood—Boundary-road, improved ground-rents, 248*l.* 8s. 8d., term 52½ years	5,135
Upper Hamilton-terrace—improved ground-rents, 20*l.*, term 54½ years	460

MEETINGS.

SATURDAY, JUNE 27.

Association of Municipal and Sanitary Engineers.—Visit to Blackfriars Railway Bridge Works. 9.45 a.m.—Leave at 11.15 a.m. by train from Blackfriars (District Railway) for Putney, to visit the new Putney Bridge Works.

TUESDAY, JUNE 30.

Society of Telegraph-Engineers and Electricians.—Visit to the Great Western Railway Company's works at Swindon. Train leaves Paddington Station at 11.50 a.m.

THURSDAY, JULY 2.

Royal Archæological Institute.—(1) Professor Bunnell Lewis on "Langres and Besançon." (2) Mr. A. Hartshorne on "Blythborough." (3) Mr. M. W. Tayler on "Stone Moulds for Casting Spear-heads." 4 p.m. The Annual General Meeting, for Members only, will be held at 3.15 p.m.

The Student's Column.

DESCRIPTIVE GEOMETRY.—PART II.

V.

Limits of certain Curves.

ONE of the sections of the cone, and als other curves, have the particular characteristic of nearing some straight line more and more without ever reaching it. To avoid Greek words meaningless to ourselves, we shall simply call such lines the limits of these infinitely prolonged curves; for we may consider them as the uttermost position a tangent will occupy when it is tangent in a point of the curve infinitely distant. It is important to obtain these limits, as they are a great assistance in drawing the curves of the sections.

To find these limits, we must consider that a point, m, of the section, situated at an infinite distance, implies that the generator, G, on which the point m is placed, must be parallel to the plane of the section; for the meeting at an infinite distance means *never*, and it is only parallels that will never meet. We must, therefore, find the generators, D, parallel to the plane of the section (see fig. 108, where the cone is shown with its generators prolonged so that it forms a double cone). As the tangent to any point, m, of the section of the surface is produced by the intersection of the cutting plane P, and the plane X tangent to the surface along the generator G, we conclude that when G becomes D, which is the limit of the positions it can take, *the tangent will then be the intersection of the plane* P *by the plane* Y, *tangent to the surface of the cone along the generator* D. This will give us the limits we want for such curves, the most known of which is the hyperbola. (See fig. 108.)

Find the section of a right cylinder by a plane, and draw the real shade of the section. Develop the surface of the cylinder.

A right cylinder has its generators perpendicular to its base, the circle E as in fig. 109. We can mark at once the intersections of a series of generators, G, for in each m^h will be on the base E and m^v on P^v, the vertical trace of the cutting

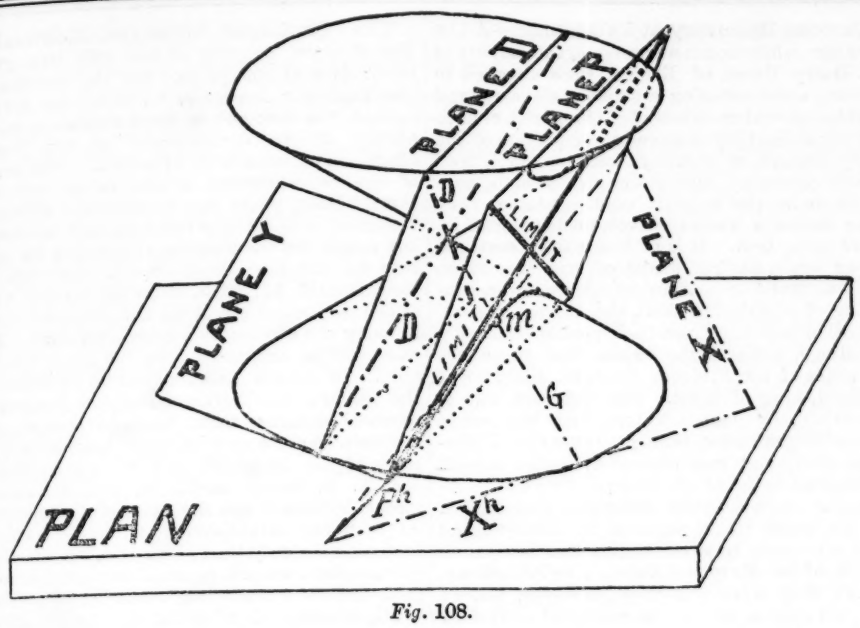


Fig. 108.

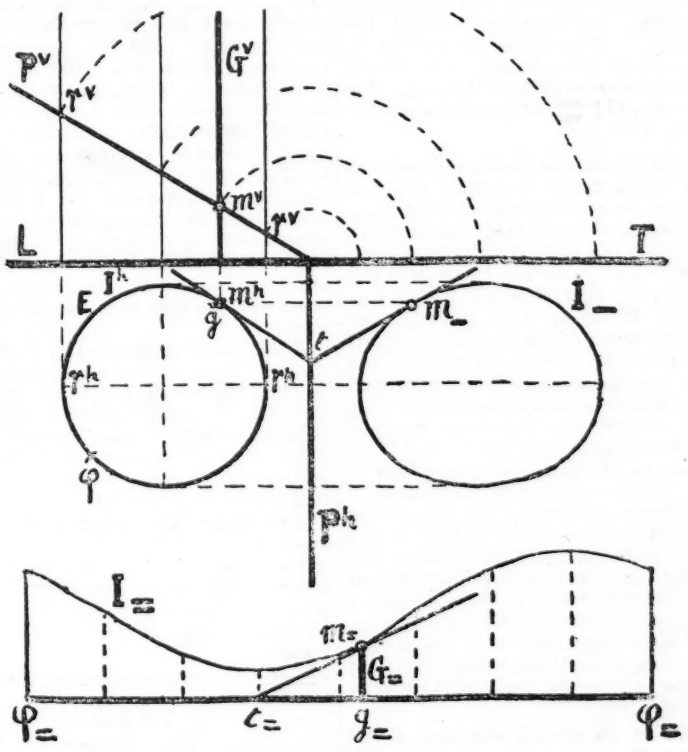


Fig. 109.

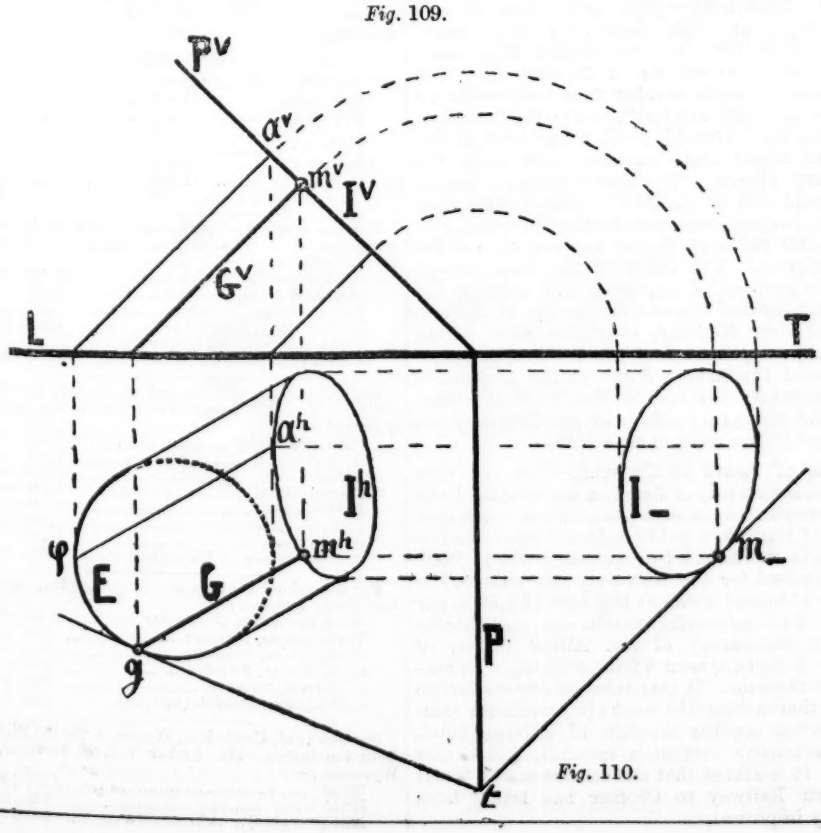


Fig. 110.

plane. In short, the plan of the intersection is the base E itself, and its elevation is a portion of P^v between r^v and r^v.

To find the real shape of the section we turn down the plane P round P^h, and lay it flat on the plan, an operation we have done often before. The tangent to the section through the point m is projected on the plan in $m^h\ t$, and as t is on the hinge round which the plane P moves, it will be a point of the tangent after the plane P has been laid flat on the plan; the tangent to the section will therefore be $t\ m_{-}$

To develop the cylinder, we cut it open down one of its generators, such as the one whose foot is ϕ, and starting therefrom we can draw on the development a series of generators $G_{=}$, remembering that the distance between $\phi_{=}$ and $G_{=}$ is equal to the length of the arc of the base between ϕ and g. The base E developes in a straight line $\phi_{=}\ \phi_{=}$, and if we carry above that line the series of points $m_{=}$, where the generators are cut by the plane P, we obtain by joining them the curve $I_{=}$, which is the development of the section.

The tangent to that curve in a point, m, will be found by making $g_{=}\ t_{=}$ equal to $g\ t$, then joining $m_{=}\ t_{=}$ we have the tangent. For we have formed by our construction a triangle $g_{=}\ t_{=}\ m_{=}$ equal to the triangle $g\ t\ m$, the real triangle formed by the tangent in space and its projection; therefore the lines $m_{=}\ t_{=}$ and $m\ t$ form the same angle with the generator G, which is the very condition a tangent should fulfil on the developed curve. (See fig. 109.)

Find the section of an oblique cylinder by a plane, draw the real shape of the section, and develope the surface of the cylinder.

Here, again, the section has its elevation I^v on the line P^v; by marking the intersections of a series of generators, G, by the plane P we get I^h the plan of the section.

To find the real shape of the section, we turn down the plane P round P^h and lay it flat on the plan as before.

To find the tangent to any point of the real section, we draw through the foot of generator on which the point m is situated a tangent to the base; this is not, as with the right cylinder, the projection of the tangent to the section, but only the trace of the plane X tangent to the cylinder along that generator; nevertheless, the tangent to the section will go through t on the hinge P^h, round which the plane P moves; $m^h\ t$ will be the projection of the tangent, and $t\ m_{-}$ will be its position on the real section. (See fig. 110.)

To develope an oblique cylinder we must begin by cutting the cylinder by a plane, P, perpendicular to its generators, and find the real shape of its section; that section developed will form a straight line $I_{=}$, from which we can measure the length of any generator so as to draw the curved line $E_{=}$, the development of the cylinder's base.

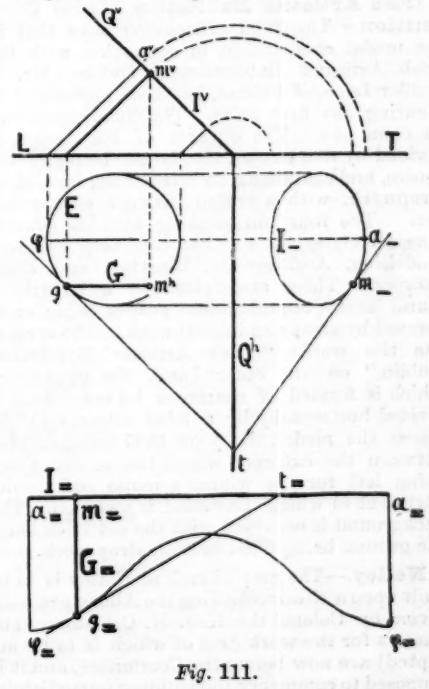


Fig. 111.

To find the tangent to any point $g_{=}$ of the developed base, we take $t_{=}\ m_{=}$, equal to $t\ m_{-}$ of the real section, and $g_{=}\ t_{=}$ is the tangent required, for it forms the same angle with the generator $G_{=}$ as the tangent did in space. (See fig. 111.)

Miscellanea.

The Colombo Breakwater.—This great work, which has occupied in its construction about twelve years, received the ceremonial finishing touch at the hands of its designer, Sir John Coode, on the 22nd of April last. The exposure to which a work of this kind is subjected during the long period required to complete it furnishes a sufficient guarantee that it is fitted to withstand any influence attacking it, and the colony of Ceylon and its engineer may be congratulated on the successful termination of a work likely to contribute so greatly to the progress of the island. The closing ceremony consisted simply in the laying, by Sir John Coode, of the last square of concrete capping; and Mr. Kyle, the resident engineer, whose services have contributed so greatly to a successful issue, has finally reported that "the whole of the work reclaiming the inner harbour foreshore, including jetties, sheds, &c., has now been completed, and all hands have been withdrawn and the account closed." The total cost incurred from the commencement of the operations in 1873 to their close has been 8,125,438 rupees, or in round figures about 812,500*l*. There appears no reason to hope that for the present the local Government will entertain the carrying out of Sir John Coode's design in its entirety by undertaking the construction of a northern breakwater.—*Engineer*.

A New Water Supply for New York.—The New York City Water Company has submitted to the City Commissioners of the sinking fund a proposition to supply the dry goods district of New York with water from wells. The new company was organised in January last with a capital of 1,500,000 dollars. There is in New York City a water-bearing strata into which wells can be driven, which, it is estimated, would furnished a daily supply of 5,000,000 gallons of fresh water. This supply would be drawn from the wells and from storage tanks distributed through the district bounded by Chambers, Bleecker, and Centre streets and West Broadway. Hydrants would be placed at various points in this district, and water forced to them by powerful engines. The water would reach the flames at a height of 150 ft. without the intervention of fire engines. The company propose to furnish machinery and lay ten miles of service within one year from the acceptance of their offer. They agree to furnish water to the city for twenty years for a fixed price per hydrant, not less in the aggregate than 150,000 dollars a year. A city committee has been appointed to investigate the need of a special water supply for the dry goods district, the feasibility of the proposed plan, and the financial responsibility of the water company.—*Iron*.

Irish Artisans' Exhibition Medal Competition.—The *Belfast Newsletter* says that in the medal competition in connexion with the Irish Artisans' Exhibition at Dublin, Mr. J. Quiller Lane, of Belfast, has been successful in securing the first prize. The competition was an open one. The obverse of his design is divided by five circles, the larger being in the centre, and containing an Irish cross, formed of strapwork, with a trefoil between each member. The four surrounding articles contain respectively symbols of Painting, Sculpture and Modelling, Architecture, Weaving, and Engineering. These are united by a wreath of laurel leaves, the additional spaces being ornamented by straps and scroll work. The reverse has the words "Irish Artisans' Exhibition, Dublin," on the outer band, the ground of which is formed of shamrock leaves. This is divided horizontally by a label extending right across the medal, the year 1885 being divided between the external wings, the centre space being left for the winner's name and the department in which the medal is awarded. The background is occupied with the old Irish harp, the ground being filled in with strap work.

Netley.—The new church at Netley is to be built upon a site overlooking the Abbey grounds, given by Colonel the Hon. H. Crichton. The tenders for the work (one of which is to be accepted) are now before the Committee, and it is proposed to commence the building immediately. The contract for the first portion of the work amounts to 3,000*l*. The walling is to be faced with Swanage stone, and the dressings to be of Doulting stone. The architect is Mr. J. D. Sedding.

Curious Discovery at Folkestone.—A few days ago, whilst some workmen in the employ of Mr. Harry Hems, of Exeter, were engaged in erecting a rich arcading of polished alabaster and marbles around the chancel of the parish church at Folkestone, they removed some portion of the Early English, or possibly Norman, north wall in the sanctuary, and under a stone slab, supposed to be the original credence-table, they came across a leaden casket, measuring 18 in. by 10 in. by 6 in. It is of beautifully stamped diaper work, having straps of lead around it, and was found to contain female remains, consisting of a part of a skull, the thighs, fingers, and other bones. From their position and surroundings, little doubt exists that these are the relics of the Princess Eansyth, daughter of Eadbald, king of Kent. This princess, who is accredited, by legendary lore, with the power of working miracles, built a nunnery on Folkestone Cliff, and was ultimately buried herself within its Chapel of St. Martin. The encroachments of the sea finally destroyed this edifice, but not before the remains of St. Eansyth had been reverently removed to the then new parish church of SS. Mary and Eansyth, at Folkestone. Where they were put there, however, history does not record, and it has remained a mystery until last Wednesday, when, in the unexpected manner recorded, the workmen brought the remains to light. The works at present in hand at Folkestone Church are under Mr. S. Slingsby Stallwood, architect, of Reading. The "find" is considered in antiquarian circles to be a most important one.

Railway Extension in Essex.—Southend-on-Sea as a health resort is rapidly rising in popular favour, and a new route to the bathing-place at the mouth of the Thames has just been commenced by the Great Eastern Railway Company. The new line leaves the Colchester and Ipswich main road near Brentwood, and proceeds through Billericay and Rayleigh, an ancient market town, direct to Southend. It will not only afford an alternative route to and from London, but furnish great facilities of communication to the whole of the eastern counties, and directly connect the important military centres of Shoeburyness, Warley, and Colchester. Branch lines will also be made to Maldon and Southminster, thus opening up a little-known corner of Essex. An illustration of the enhanced value acquired by land in the vicinity of the railways under construction was given at a land sale held a few days ago at Southend by Messrs. Baker & Sons, when for some building plots near the almost forgotten town of Rayleigh exceptionally high prices were realised. It is expected that quite a little township will spring up on the main road between Rayleigh and Southend.

The Medway Portland Cement Company (Limited).—The prospectus of this Company has been issued. The proposed capital is 60,000*l*., in 12,000 shares of 5*l*. each. The first issue will be of 35,000*l*. in 7,000 shares of 5*l*. each, divided into 6,000 ordinary shares and 1,000 vendors' shares; the latter not ranking for dividend until a dividend at the rate of 6 per cent. has been paid upon the ordinary shares. The 1,000 vendors' shares fully paid will be allotted in part payment of the properties purchased by the Company, and the 6,000 ordinary shares are now offered for subscription. The Company has been formed for the purpose of acquiring and working the recently-erected cement, &c., works at Cuxton, on the river Medway, near Rochester, which have recently come into the market in consequence of the sudden death of the proprietor. The secretary *pro tem.* is Mr. W. F. Watkins, and the temporary offices of the Company are at 7 and 8, Ironmonger-lane, E.C.

Sale of Land at Cromer.—For the first time in the history of Cromer, the beautiful but much-neglected sea-side place on the north-east coast of Norfolk, a public sale of freehold building plots was held a few days ago, when 4,860*l*. was realised for the first sixty lots put up, the prices obtained being at the rate of 1,500*l*. per acre. This successful auction was undoubtedly due to the energy of Mr. Alfred Baker, of Baker & Sons, Queen Victoria-street, who conducted the sale. It may interest our readers to learn that among the works in immediate contemplation are the erection of a large hotel, with extensive recreation-grounds, and a new pier. It is stated that the service of the Great Eastern Railway to Cromer has lately been greatly improved.

The Trafalgar Institute, Montreal.—The *Montreal Gazette*, of the 10th inst., gives particulars of the project for the erection of the Trafalgar Institute, "which," we are informed, "is destined to mark a new era in the history of the development of the higher education of women in Montreal." The origin of the establishment is due to the late Mr. Donald Ross, years ago a prominent citizen of Montreal, who by his last will and testament left means for the purpose of erecting an institute for the purpose indicated. Recently the Hon. Donald A. Smith, following up the spirit of the bequest of Mr. Ross, has granted $25,000 to carry the project to a successful issue. The work will be commenced on the 1st of October next. In answer to an invitation for plans for the building, the Trafalgar Institute Committee received designs from fourteen competitors, representing the architectural profession in all parts of the Dominion and the United States. Mr. T. C. Sorby, architect, 162, St. James-street, Montreal, was the successful competitor. At first the establishment will afford accommodation for only thirty boarders, but the plans contemplate, when it is found necessary, accommodation for a much larger number of pupils.

Plymouth.—Tenders for the erection of the new church of St. Matthias, Plymouth, to be erected on a fine site at North Hill, were last week received from six of the principal contractors of Plymouth. The tender of Messrs. Finch & Son at 8,778*l*. for the complete work,—being the lowest,—was accepted, and the building will be forthwith commenced. The design, by Messrs. Hine & Odgers, shows a church in the Perpendicular style, with clearstoried nave, aisles, chancel, vestries, and tower at the west end of the nave, rising to the height of 112 ft. above the floor. The walls will be of local limestone, having dressings chiefly of Box ground and Portland stone. The Bishop of Exeter has promised to lay the foundation-stone next month.

A History of Hampton Court Palace.—A new history, dedicated, by special permission, to her Majesty, is announced under the title of "The History of Hampton Court Palace in Tudor Times," by Mr. Ernest Law, B.A. It is illustrated with 130 autotypes, etchings, engravings, maps, and plans. Messrs. Bell & Sons are the publishers.

The Late Professor Jenkin.—The Professorship of Civil Engineering in the University of Edinburgh has become vacant by the death of Professor Fleeming Jenkin, F.R.S., who expired on the 12th inst. from blood-poisoning, after undergoing a surgical operation.

TENDERS.

For proposed Alleyn's Boys' Schools, Dulwich, for the Governors of Dulwich College. Messrs. Oliver & Leeson, architects, Newcastle-on-Tyne:—

	Schools only.	Roads, &c.	Less Blue Slates.
Higgs & Hill	£12,884	£320	£260
Peto Bros.	12,806	355	300
Stephens & Bastow	12,499	365	266
J. & C. Bowyer	12,490	312	375
Perry & Co.	12,331	320	350
Howell & Son	11,384	380	325
C. Wall	11,250	254	218
W. J. Mitchell	10,410	396	350

For the erection of grain-store and extension of goods warehouse at Norwich City Station, for the Eastern and Midlands Railway:—

G. Hammond, Norwich	£1,777	0	0
Holmes & Reed, Norwich	1,480	0	0
Youngs & Son, Norwich	1,449	0	0
Barden Bros., King's Lynn	1,388	0	0
North & Wilson, St. Stephen's, Norwich (accepted)	1,294	10	0

For shop, house, stables, and warehouses, at Stamford, for Mrs. Young. Messrs. Richardson & Son, architects, Stamford:—

Hilliam & Corby	£1,903	2	6
Nicholls Bros.	1,341	4	0
Roberts Bros.	1,340	0	0
Clayson Bros.	1,245	0	0
J. Woolston	1,245	0	0
Ludlow & Emmerson	1,235	0	0
Hinson Bros.	1,190	0	0
Scholes, Rouse, & Clake (accepted)	1,165	0	0

For new school and class-rooms at Swindon. Mr. Thos. Lansdown, architect:—

W. Jones & Son, Gloucester	£790	0	0
T. Colbourne, Stratton	780	0	0
G. Wiltshire, Swindon	668	0	0
G. R. Linley, Swindon	659	12	0
T. Barrett, Swindon	616	0	0
J. Williams, Swindon (accepted)	449	0	0

For new road, Castle Hill, Wycombe, for the Right Hon. Lord Carrington. Mr. Arthur Vernon, surveyor, High Wycombe:—

Stone	£255	10	0
Hunt	249	0	0
Hill (accepted)	235	10	0

CONTRACTS AND PUBLIC APPOINTMENTS.

Epitome of Advertisements in this Number.

CONTRACTS.

Nature of Work, or Materials.	By whom required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.	Page.
Cleaning and Whitewashing	Chelsea Guardians	*Official*	June 30th	xii.
Concrete Wall in Dock, and Retaining Wall	Tottenham Local Board	— De Pape	do.	ii.
Laying Pipes, &c.	Cardiff Corporation	J. A. B. Williams	July 1st	xii.
Scavenging, Dusting, and Watering	Vestry of St. Matthew	F. W. Barratt	July 2nd	ii.
Cleaning and Painting	Midland Railway Co.	A. A. Langley	July 3rd	ii.
Outside Repairs, Painting, &c., Bow	City of London Union	*Official*	July 4th	ii.
Painting Royal Arsenal, &c., Woolwich	War Department	do.	do.	ii.
New Station, Offices, &c., Eastbourne	L. B. and S. C. Ry. Co.	do.	July 6th	ii.
Cleansing, Distempering, &c.	Poplar and Stepney Sick Asylum District	A. & C. Harston	July 7th	xii.
Construction of Crofton Branch Railway	Gt. Nrthrn and Manch. Shffld. and Lincln. Ry.	J. Fraser & Sons	do.	ii.
Yellow Deal for Firewood	Epsom Union	*Official*	do.	xii.
Paving	Rotherhithe Vestry	E. Thomas	do.	ii.
Brick and Pipe Sewer	Lowestoft Imp. Com.	R. H. Inch	July 8th	ii.
School and Office Buildings	Vauge School Board	J. Young	do.	ii.
Pipe Sewer, &c.	Greenwich Bd. of Wks.	*Official*	do.	xii.
Painting Barracks, &c.	War Department	do.	July 9th	ii.
Wrought-Iron Foot Bridges	Kingston-on-Thms Cor.	do.	July 10th	ii.
Alterations, &c., Walsall County Court	Com. of H.M. Works	do.	do.	ii.
Shelter for Cows	Met. Asylums Board	do.	do.	ii.
Officer's House, Cottages, &c.	Admiralty	do.	do.	ii.
Reservoir, Pumps, &c.	Hailsham Waterworks	do.	July 11th	xii.
Sewerage Works, Henley-on-Thames	Henley-on-Thms U.S.A.	I. Shone	July 13th	ii.
Outside Staircases for Lunatic Asylum	Chester Magistrates	Stanley Bull	do.	xii.
Sewage Works	Portsmouth U. S. A.	Sir F. Bramwell	July 15th	ii.
Painting Buildings	War Department	*Official*	do.	ii.
Brick, &c., Sewers, Pumping Station, &c.	Wimbledon Local Brd	do.	July 21st	xii.
New Roads, Sewers, &c., Acton	Berks Estates Co., Lim.	J. O. Cooper & Son	Not stated	ii.
Alterations and Additions, Bushey, Herts.	F. Charsley, Esq.	W. H. Norris	do.	xii.
Erection of a Wesleyan Chapel, Wolverhmptn	.....	C. Bell	do.	xii.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.	Page.
Engineer's Assistant	Belfast & Co. Down Ry.	Not stated	July 6th	xvi.

For the erection of new infants' school and alterations to class-rooms at Churchfield Schools, for the Woodford School Board. Mr. Edward Tidman, architect, Finsbury-pavement, E.C. Quantities supplied:—

Swain	£1,133 6 0
Brass	865 0 0
Newman	800 0 0
C. Robson	799 0 0
Brooks & Tester	765 0 0
Dixon & Co.	739 0 0
Scott	693 0 0
Schofield	690 0 0
Pratt	685 0 0
Morgan & Newman	680 0 0
Barnes	678 0 0
Osborne	665 0 0
Stewart	663 0 0
J. J. Robson	644 0 0
Watson	634 0 0
Wells	623 0 0
England & Thompson	612 0 0
Foster	611 0 0
Ranger	560 0 0
Webb	549 0 0

[Architect's estimate, 550*l.*]

For new offices, Mill Dam Quay, in the Borough of South Shields, for the River Police and Tyne Port Sanitary Officers. Mr. Matthew Hall, Borough Engineer. Quantities by Mr. S. D. Irwin, Sunderland:—

		Allowed for old material.
J. Elliott, North Shields	£1,779 0 0	
S. Storar, Jarrow	1,750 0 0	
Gilfillan Bros., South Shields	1,693 19 7	£20
W. M. Hudson, South Shields	1,681 12 4	
R. Allison, Whitburn	1,670 12 0	
R. Atkin & Co., South Shields	1,593 0 0	23
F. Macree, South Shields	1,573 19 5	
W. Harwood, South Shields	1,493 0 0	
Fishburn Bros., North Shields	1,426 7 0	26
W. Richardson, Gateshead*	1,407 1 0	20

* Accepted.

For sundry works and repairs at No. 45, Queen's-gardens, Hyde Park, W. Mr. Robert Willey, architect, 66, Ludgate Hill:—

Beally & Son	£525 0 0
Woodward, Finsbury (accepted)	386 0 0

For the erection of a girls' school in connexion with Christ Church, Ealing. Mr. Robert Willey, architect, 66, Ludgate Hill:—

Thomas Nye, Ealing (accepted)	£1,100 0 0

For new ragged schools, Giffen-street, Deptford. Quantities supplied:—

Dove Bros.	£1,995 0 0
J. Mowlem & Co.	1,922 0 0
Pack Bros.	1,900 0 0
Staines	1,882 0 0
Rider & Son	1,830 0 0
Greenwood	1,790 0 0
Jerrard	1,774 0 0
Tyerman	1,770 0 0
Scott	1,752 0 0
Holloway Bros. (accepted)	1,717 0 0

For repairs and alterations to No. 304, Camden-road, N.W., for Mr. H. G. Bridges. Mr. Walter J. Ebbetts, architect, 115, Strand, W.C.:—

J. Williamson	£628 10 0
Steel Bros.	489 0 0
R. Perkins	473 0 0
H. Baylis	447 15 0
W. Holt	442 12 6

For laundry fittings at the new schools for the Oldham Union. Mr. A. Banks, architect, 46, Union-street, Oldham:—

C. Jeakes & Co., London	£930 0 0
Benham & Sons, London	865 0 0
Leech Bros. & Hoyle, Manchester	587 0 0
Thomas & Taylor, Stockport	551 10 0
Bradford & Co., Manchester (accepted)	565 0 0

For stone boundary-wall to the new schools, for the Oldham Union. Mr. A. Banks, architect:—

J. & S. Smethurst	£1,945 0 0
A. Staley	1,920 0 0
R. Mellor	1,783 0 0
J. & J. Whitehead	1,745 12 0
T. Bebbington	1,719 0 0
E. Whittaker	1,700 0 0
S. Dunkerly & Son (accepted)	1,630 0 0

[All of Oldham.]

Accepted for twelve houses, Delph, Yorkshire. Mr. A. Banks, architect:—

Brickwork and Stonework.

C. Winterbottom, Delph	£1,605 0 0

Joiner's Work.

J. Wood, Delph	520 0 0

Plumbing and Glazing.

J. Whitehead, Dobcross	140 0 0

Plastering.

C. & W. Shaw, Delph	114 0 0

[Slating not let.]

For two villa-residences at Queen's-road, Oldham. Mr. A. Banks, architect:—

E. Whittaker	£1,460 0 0
J. Turner	1,460 0 0
J. Whittaker	1,430 0 0
J. Booth	1,420 0 0
C. Schofield & Co.	1,400 0 0
E. Stephenson	1,350 0 0
W. Lees (accepted)	1,350 0 0
Dyson & Sons	1,320 0 0

[All of Oldham.]

For building Congregational Sunday schools at Oldham. Mr. A. Banks, architect:—

E. Whittaker	£2,300 0 0
C. Schofield & Co.	2,216 0 0
J. Booth	2,180 0 0
Jackson & Randall	2,173 0 0
W. Lees (accepted)	2,095 0 0
J. & J. Whitehead	2,080 0 0
E. Stephenson (too late)	2,070 0 0

[All of Oldham.]

For the erection of shops in High-road, Kilburn, for Mr. O. Davies. Mr. Edward Monson jun., architect, Acton:—

A. E. Wickham, Chiswick	£12,160 0 0
F. J. Crabb, Acton	11,828 0 0
R. G. Battley, Old Kent-road	11,150 0 0
W. A. Pryor, Brondesbury	11,100 0 0
J. Ridout, Oakley-square	10,700 0 0
J. Edgar, Kentish Town	10,480 0 0
W. Martin, Willesden Green	10,297 0 0
Brass & Co., King's Cross	9,950 0 0
Hann & Co., Old Windsor	9,913 0 0
G. Lyford, Shepherd's Bush	9,490 0 0
R. Julian, Kilburn	9,300 0 0
Went & Bowen, Feltham	9,028 0 0
T. May, Acton	9,025 0 0
A. H. Harris, Sutton	8,990 0 0
A. Harris, Brondesbury	8,416 0 0
J. M. Goodwin, Brondesbury	8,273 10 0
H. Hunt, Barnes (accepted)	8,250 0 0

For the erection of schools at Page Green, Tottenham, for the Tottenham School Board. Messrs. E. Ellis & Son, architects. Quantities by Mr. William B. Brown:—

Humphreys & Son	£4,195 0 0
Linzell	4,167 0 0
Nixon	4,000 0 0
Sabey & Son	3,845 0 0
Huck	3,794 0 0
Staines & Son	3,792 0 0
Coulsell Bros.	3,789 0 0
Nightingale	3,760 0 0
Harper & Co.	3,687 0 0
Stephenson	3,681 0 0
Parker	3,579 0 0
Garrod	3,431 0 0
C. Manning	3,420 0 0
Williamson	3,394 0 0
C. Wall	3,335 0 0
Harris	3,100 0 0
Angood	2,950 0 0

For the erection of schools at West Green, Tottenham, for the Tottenham School Board. Messrs. E. Ellis & Son, architects. Quantities by Messrs. D. Campbell & Son:—

Nixon	£13,865 0 0
Coulsell Bros.	13,423 0 0
Huck	13,297 0 0
Sabey & Son	13,155 0 0
Parker	13,099 0 0
Pain Bros.	12,774 0 0
Nightingale	12,570 0 0
Stephenson	12,287 0 0
Angood	12,050 0 0
C. Manning	11,995 0 0
Grover & Son	11,899 0 0
Williamson	11,855 0 0
Garrod	11,510 0 0
C. Wall	10,950 0 0
Harris	8,546 0 0

For rebuilding the Royal Standard Concert Hall, Westminster, and making certain alterations to the public-house adjoining, for Mr. R. Wake. Mr. H. I. Newton, architect, 17, Queen Anne's Gate:—

Godden	£6,905 0 0
Royal	6,896 0 0
Shurmur	6,870 0 0
Steel Bros.	6,710 0 0
Cook	6,449 0 0
Burman & Son, Kennington, S.E.	6,377 0 0

For alterations to the Victoria Hotel, Charterhouse-street, for Mr. J. S. Manley. Mr. Arthur W. Saville, architect, 99, Strand. Quantities supplied:—

Walker	£851 0 0
Anley	820 0 0
Smith	715 0 0
Royal	696 0 0
Heath	685 0 0
Ward & Lamble	677 0 0
Spencer & Co.	650 0 0
Cook	631 0 0

Pewterers' Work.

Davidson	266 0 0
J. Warne	244 0 0
Heath	217 0 0
Helling	211 0 0
H. T. Warne	210 0 0
Sanders & Sons	203 0 0
Watts & Co.	197 17 0
Mathews	199 19 8

For building new mansion at Frensham, near Farnham, Surrey, for Mr. J. F. Woodroffe. Mr. A. E. Purdie, architect. Quantities by Mr. J. T. Carew, 22, Surrey-street, Strand:—

Diamond	£10,837 0 0
Patman & Fotheringham	10,763 0 0
Wall Bros.	10,543 0 0
Goddard & Sons	10,211 0 0
Roberts Bros.	9,992 0 0
Tompsett & Kingham	9,981 0 0
Carless & Co.	9,549 0 0
Woods	9,449 0 0
Martin, Wells, & Co.	9,200 0 0

Accepted for estate offices, clerk's residence, stabling, and cottage, at Easton-on-the-Hill, Northamptonshire, for Mr. Nevile Day. Mr. J. B. Corby, architect, Stamford:—

W. & J. Perkins, Easton	£1,870 0 0

For additional farm buildings at Wellingore, Lincolnshire. Mr. J. B. Corby, architect, Stamford:—

J. Holmes, Wainfleet	£618 0 0
R. H. Dunkley, Eastville	598 0 0
J. T. Turner, Wainfleet (accepted)	573 10 0

For the erection of a house and shop, No. 31, Chapel-street, Broadway, Westminster, for Mr. W. C. Shean:—

Colls & Sons	£2,510 0 0
Whitlock	2,478 12 0
Macey & Sons	2,379 0 0
Scott	2,367 0 0
Faulkner	2,346 0 0
Shurmur	2,250 0 0
Holliday & Co.	2,136 0 0
Mayle & Son	2,125 0 0
Downs	2,068 0 0
Smith & Sons	2,059 0 0
Prestige & Co.	1,987 0 0
Green	1,828 0 0

Accepted for constructing new road and sewer on the Norbiton Estate of the Bee Land Company, under the superintendence of Mr. Ernest Turner, architect to the Company:—

Atkins, Teddington	£940 0 0

For the erection of St. Matthias's Church, Plymouth. Messrs. Hine & Odgers, architects. Quantities taken out by Messrs. Widnell & Trollope, Parliament-street, Westminster:—

	A.*	B.†
Palk & Partridge	£11,133	£9,023
Pethick Bros.	10,977	8,544
Berry	9,779	7,837
Harley	9,150	7,390
Marshall	8,920	6,787
Finch & Son (accepted)	8,778	6,996

* For the whole. † Without upper part of tower.

For building new schools, &c., for the Hampton Wick School Board. Mr. R. T. Elsam, architect, Hampton Wick. Quantities by the architect:—

Venthem & Gaze, Kingston	£2,797	0	0
A. Newland, Cobham	2,100	0	0
F. R. Tozer, Notting Hill	2,011	11	6
Wheatley & Sons, East Moulsey	2,000	0	0
J. H. Jarvis, Surbiton Hill	1,963	0	0
T. Hardy, Cowley, Uxbridge	1,929	0	0
Scrivener & Co., Regent's Park	1,923	0	0
C. Oldridge & Sons, Norbiton	1,907	0	0
W. Schofield, Bucklersbury	1,900	0	0
A. Robb, City-road	1,889	0	0
G. Constable, Hampton Wick	1,870	0	0
W. R. Wood, Hampton Wick	1,845	10	7
G. Huckle, Norbiton	1,833	10	0
Prestige & Co., Grosvenor-road	1,830	0	0
W. Hickinbotham, Teddington	1,810	0	0
J. F. Collinson, Teddington	1,795	0	0
C. Bonell, Teddington	1,785	0	0
T. Hiscock, Hounslow	1,755	0	0
J. Piller, Teddington	1,728	0	0
A. Harris, Sutton	1,699	0	0
C. Manning, Barnes	1,695	0	0
Collier, Teddington (accepted)	1,536	0	0
Brass & Co., King's Cross	1,226	10	6

For supplying and laying 2,900 ft. lineal of 12 in. by 6 in. Norwegian granite edge kerb (straight), for the Bromley Local Board. Mr. Hugh S. Cregeen, surveyor:—

	s.	d.	
Woodhams & Fry	1	8	per foot.
J. G. B. Marshall	1	8	,,
Cattley	1	8	,,
E. & H. Beevers	1	7½	,,
J. Mowlem & Co.	1	7	,,
H. R. Trehearne & Co.	1	5½	,,
J. S. Gabriel (accepted)	1	4½	,,

For building dwelling-houses for pier-master and crew at Managers'-street, Poplar, for the Managers of the Metropolitan Asylums Board. Messrs. A. & C. Harston, architects, 15, Leadenhall-street. Quantities supplied:—

G. Lunn	£1,586	0	0
J. B. Potter	1,400	0	0
W. Johnson	1,390	0	0
J. H. Johnson	1,337	0	0
S. Chafen	1,335	0	0
J. Holland	1,329	0	0
Van Camp	1,310	13	5
E. Proctor	1,280	0	0
Ward & Lamble Hornsey-street, Holloway (accepted)	1,175	0	0

For repairs, painter's work, &c., at the Offices of the *Morning Advertiser*, Fleet-street, Mr. W. T. Farthing, architect:—

Flowers	£161	10	0
Maton	159	0	0
Wythe	131	14	0
Pickersgill	122	0	0
Beale	120	0	0
Crabtree	114	10	0
B. Cook (accepted)	107	15	0

For new warehouses and buildings at Blackfriars, for the National and Provincial Plate Glass Insurance Company. Mr. Marshall N. Inman, architect. Quantities by Mr. Walter Barnett:—

Boyce	£4,667	0	0
Holland & Hannen	4,144	0	0
Mowlem & Co.	3,955	0	0
Andrew & Nanson	3,905	0	0
Brown, Son, & Bloomfield	3,650	0	0
Stimpson	3,533	0	0
Grover & Son (accepted)	3,490	0	0

For engine, pumps, and tank at West Ham Union:—

T. Middleton & Co.	£850	0	0
Tylor & Sons	746	0	0
Brown, Tottenham	745	0	0
Meads & Co.	725	0	0
Warner & Sons	620	0	0
Scott & Sons	589	0	0
J. & F. May	570	0	0
H. Lowe, Hackney	550	0	0
Bennett & Sons	515	0	0
T. Horn & Sons	492	0	0
W. Harris, Forest Lane (accepted)	492	0	0

For sewer and road on the Cotton Estate, Cricklewood. Mr. P. D. Tuckett, surveyor:—

Heard, Hornsey	£845	0	0
Roger & Dickens, Notting Hill	825	0	0
Killingback, Camden Town	815	0	0
Nowell & Robson, Kensington	799	0	0
Watts, Hampstead (accepted)	787	15	0

For pulling down present school at Hyde, near Fordingbridge, Hants, and erecting new school on site. Mr. Robert J. Beale, architect, Palace-chambers, Westminster:—

W. Dibben, Salisbury	£714	0	0
A. Hubbard, Tottenham	628	0	0
G. Harris, Salisbury	615	0	0
Spering & Wheeler	595	0	0
T. Clarke, Bickton	565	0	0
Tuck & Carley, Ringwood	560	0	0
A. Head, Ringwood	552	9	0
R. Tuck, Ringwood	530	15	0
J. Shering, Fordingbridge	518	7	6
W. E. Alexander, Ringwood	490	0	0
C. Mitchell, Downton (accepted)	488	0	0

Accepted for the erection of a pair of cottages at Shenley, Herts, for Mr. John Briers. Mr. Robert J. Beale, architect:—

W. Carter, Shenley	£370	0	0

For the erection of stabling, &c., at 13A, High-street, Deptford, for Mr. H. Wellbeloved. Mr. John James Downes, architect, 183, Lewisham High-road:—

M. Redman, Brockley	£350	0	0

[No competition.]

For alterations at 142, Lewisham High-road, S.E., for Mr. John Squibb. Mr. J. J. Downes, architect:—

T. D. Lenp, Deptford	£167	0	0
J. Almond, Bermondsey	160	0	0
M. Redman, Brockley (accepted)	147	0	0

For alterations to premises, No. 189, Mile End-road, for Mr. William Greaves. Mr. Robert Wm. Dexter, architect, Jewry-street, Aldgate:—

Mark Gentry	£397	0	0
W. Gregar	374	0	0
John Loveday	328	0	0

SPECIAL NOTICE.—Lists of Tenders frequently reach us too late for insertion. They should be delivered at our Office, 46, Catherine-street, W.C., *not later than Four p.m.* on THURSDAYS.

TO CORRESPONDENTS.

F. P.—E. C. L.—E. J. T.—C. L. (Paris).—O. E.—A. S.—J. R. C.—W. G. S.—G. N. (address noted).—J. D. S.—F. J. P. (your letter is not one that we could print).—C. & Co.—J. P.—T. S.—C. M. S.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication.

We are compelled to decline pointing out books and giving addresses.

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news-items) which have been duplicated for other journals, are NOT DESIRED.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; all communications relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

PUBLISHER'S NOTICES.

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SITUATIONS VACANT, PARTNERSHIPS, APPRENTICESHIPS, TRADE, AND GENERAL ADVERTISEMENTS,

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Terms for Series of Trade Advertisements, also for Special Advertisements on front page, Competitions, Contracts, Sales by Auction, &c. may be obtained on application to the Publisher.

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PREPAYMENT IS ABSOLUTELY NECESSARY.

*** Stamps *must not* be sent, but all small sums should be remitted by Cash in Registered Letter or by Money Order, payable at the Post-office, Covent-garden, W.C. to

DOUGLAS FOURDRINIER, Publisher,
Addressed to No. 46, Catherine-street, W.C.

Advertisements for the current week's issue must reach the Office before THREE o'clock p.m. on THURSDAY.

The Publisher cannot be responsible for DRAWINGS, TESTIMONIALS, &c. left at the Office in reply to Advertisements, and strongly recommends that of the latter COPIES ONLY should be sent.

SPECIAL.—ALTERATIONS in STANDING ADVERTISEMENTS or ORDERS TO DISCONTINUE same, must reach the Office before TEN o'clock on WEDNESDAY mornings.

PERSONS Advertising in "The Builder," may have *Replies addressed to the Office, 46, Catherine-street, Covent-garden, W.C. free of charge.* Letters will be forwarded if addressed envelopes are sent, together with sufficient stamps to cover the postage.

TERMS OF SUBSCRIPTION.

"THE BUILDER" is supplied DIRECT from the Office to residents in any part of the United Kingdom at the rate of 19s. per annum, PREPAID. To countries within the Postal Union, 26s. per annum. Remittances payable to DOUGLAS FOURDRINIER, Publisher, No. 46, Catherine-street, W.C.

Best Bath Stone.
WESTWOOD GROUND,
Box Ground, Combe Down,
Corsham Down,
And Farleigh Down.
RANDELL, SAUNDERS, & CO., Limited,
Corsham, Wilts. [ADVT.

Bath Stone.
ALL DESCRIPTIONS OF BEST QUALITY.
PICTOR & SONS,
BOX, WILTS. [ADVT.

Doulting Freestone and Ham Hill Stone of best quality, in blocks, or prepared ready for fixing. An inspection of the Doulting Quarries is respectfully solicited; and Architects and others are CAUTIONED against inferior stone. Prices, delivered to any part of the United Kingdom, given on application to CHARLES TRASK & SONS, Norton-sub-Hamdon, Ilminster, Somerset.—Agent, Mr. E. WILLIAMS, No. 16, Craven-street, Strand, W.C. [ADVT.

Doulting Free Stone
HAM HILL STONE,
BLUE LIAS LIME
(Ground or Lump),
For prices, &c., address S. & J. STAPLE, Quarry Owners, Stone and Lime Merchants, Stoke-under-Ham, Ilminster. [ADVT.

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